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THE

JOURNAL

OF THE

British Dental Association

3158

A

MONTHLY REVIEW OF DENTAL SURGERY

VOL. XVIII.

JANUARY TO DECEMBER, 1897

LONDON
PUBLISHED FOR THE PROPRIETORS BY
BAILLIERE, TINDALL & COX
20 & 21, KING WILLIAM STREET, STRAND, W.C.

1897

JOHN BALE SONS,
and DANIELSSON, LTD
Gt. TITCHFIELD STREET
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SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 1. JANUARY 15, 1897. VOL. XVIII.

1896.

THE year which has just closed has been marked by sound and steady progress in almost every branch of the dental profession. Politically we have been more than usually active, and the several successful prosecutions, undertaken by and under the guidance of the Association, have shown that the penal clause of the Dentists Act is likely to bring within its grasp more offenders than was at first sight expected. In this connection the prosecution at Eastbourne was especially instructive, for here the defendant, named Flax, endeavoured to guard himself under the title D.D.S. The court decided against him, and so held that the employment of diplomas which have no validity in this country rightly come within the meaning of Clause 3. Indeed the whole question of prosecution has been prominently before us, and the question of Branches conducting their own prosecutions has formed the subject of a paper by Mr. Beadnell Gill. Some of our Welsh friends have taken up the question in a practical manner, and have carried out quite a series of successful cases in South Wales, with, apparently, most satisfactory results as far as Cardiff is concerned. The Act, as amended, now allows private individuals to carry out prosecutions, but those who undertake such work should make certain of their facts beforehand, and not leave any stone unturned to ensure success, as a single failure is a heavy discount on many successes. In one instance this year a case was lost through the technical error of not putting in the Dentists' Register as evidence, while in another instance the individual prosecuted was actually on the Dentists' Register.

A marked feature of the year has been the publication of Mr. C. S. Tomes's Reports on the inspection of the various dental examinations, and in a future issue we hope to publish them in detail. A distinct advance in dental education has been made by the Royal College of Surgeons of England. The curriculum has been made more thorough, and this, with the division of the examination into three parts—namely, a preliminary science and two professional—cannot fail to produce a higher standard of knowledge on the part of the candidates. Whether experience will or will not justify this change, it must be regarded as a clear move towards the settlement of the question of dental education.

With regard to the schools, there is much to be recorded. Newcastle, which only last year founded a Dental Hospital, has now become one of the centres for dental education, a school having developed in connection with the hospital. A dental department in connection with the Sheffield Royal Hospital has been opened, and no doubt in the near future we shall have the pleasure to chronicle the formation of a dental school there. Dublin has opened its new hospital, and the authorities of the Leicester Square Institution are now actively engaged in the plans for their building, which by this time next year will in all probability be nearing completion. Then, again, our colonial brethren are active. New South Wales is in the midst of the throes of dental legislation, and the University of Sydney has before it a proposal to form a dental section in connection with its medical school. In Canada an advance has been made by the amalgamation of the Montreal Dental College with the University of Bishop's College. We hope, however, that the multiplication of schools may not lead to that kind of competition which is inimicable to educational advancement.

During the year several deaths have been recorded from chloroform used as an anæsthetic in dental surgery, and in one case, namely, that of Priestley, an unregistered man, the coroner's jury returned a verdict of manslaughter, but he was found not guilty at the Assizes. The case created a good deal of interest, and led to an able leader in the *Times* dealing with the anomalies of the Dental and Medical Acts. The public interest thus aroused was a good sign, and although actual parliamentary reform can hardly be confidently looked for in the near future, the fact that the question is engaging attention outside the profession must accelerate the much-to-be-desired and needful legislation to protect the public from the clutches of the unregistered man, who is usually a quack or a charlatan. The administration of anæsthetics for unqualified dental practitioners by medical men still rightly continues to exercise the minds of many, and the Oxford and District Branch of the British Medical Association and the Watford Medical Society have recently passed resolutions not to give anæsthetics for such men.

Certain ultra vulgar forms of advertising which have been occupying the attention of the Representative Board at various times during the last two or three years have been considered by the General Medical Council, who have been advised by their legal authorities that the extraordinary vulgarity of advertisements did not in itself afford sufficient grounds for treating them differently from those of a less vulgar character. The question is by no means dead, and we hope that the Representative Board is not yet at the end of its efforts to grapple with this crying evil.

Turning to the scientific work of the year, it is satisfactory to note that much that is valuable has been brought under notice. Mr. Tomes has again contributed some very valuable papers. His researches into the chemistry of the enamel show that this structure is practically devoid of organic matter, and the portion previously supposed to be organic is really water of crystallisation. By further investigation into the properties of amalgams he has been able to show that in setting, they undergo something similar to crystallisation ; this is a valuable step forward, and marks another stage towards the correct understanding of the behaviour of this most valuable filling. His paper on "Spaces in the Dentine," contributed to the Annual Meeting, was also interesting from the ingenious suggestion made with regard to the relation to one another of the different spaces seen in this structure. An addition to our knowledge of the bacteriology of the mouth has been made by the researches of Dr. Washburn and Mr. Goadby, these authors having centred their researches on the normal streptococci of the mouth, with the result that some interesting facts have been brought to light. Another paper worthy of mention is that by Mr. Constant on "The Blood Pressure as a Factor in Eruption." His suggestion is an original one, and opens up certain considerations which will materially assist the elucidation of this problem. Among other papers of a scientific character more than usually interesting may be mentioned those by Messrs. Stack and Spokes, read at the Annual Meeting.

In operative work the main advance has been in the section dealing with crowns, and Solila gold has also created quite a stir; while in connection with dental literature mention must be made of Mr. Glassington's book on Dental Materia Medica.

The obituary of the year is fortunately a short one. The death of Mr. Gregson, who was for so many years on the active staff of the Dental Hospital, has removed from our midst one of the few remaining links of the present with the past. France, by the death of Mons. P. Dubois, has lost one whose work and ability did so much to advance the status of dentistry in that country.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Irish Branch.

THE Annual Meeting of the Irish Branch of this Association was opened at the Dental Hospital of Ireland, Lincoln Place, Dublin, on the afternoon of December 4, 1896 (Mr. A. W. W. Baker, President), in the chair. The following members and guests attended :—Messrs. H. Sherlock, R. H. Moore, G. P. Moore, R. Theodore Stack, D. McC. Smith, G. W. Yeats, George J. Goldie, Kevin E. O'Duffy, F. O. Stoker, D. Rogers, F. G. Pakenham, M. F. Thomson, W. Booth Pearsall, J. S. Thomson, S. G. Reeves, Shenstone Bishop, P. O'Meehan, (Limerick), Herbert Williams (Londonderry), and J. J. Andrew (Belfast).

The Hon. Secretary, Mr. G. M. P. Murray, read the minutes of the last annual and special meetings, and letters of apology and good wishes from Messrs. Smith Turner (London), John A. Biggs (Glasgow), W. B. McLeod (Edinburgh), and J. O'Duffy (Dublin).

The result of the election for councillors and officers for the coming year was announced as follows:—President, J. J. Andrew; Vice-President, Daniel Corbett, jun.; Hon. Treasurer, J. S. Thomson, Hon. Secretary, G. M. P. Murray; Council, A. W. W. Baker, W. J. Bowden, Daniel Corbett, W. C. Corbett, C. M. Cunningham, W. H. Elwood, J. M'Stay, R. H. Moore, P. O'Meehan, R. Theodore Stack, J. S. Thomson, C. Wall and H. Williams.

The Hon. Secretary read his report for the year, in the course of which he stated—"In February last a circular was issued to the members on the subject of the General Medical Council, and its attitude towards advertising dentists. As a result of this circular a memorial signed by thirty-one members was forwarded to the Representative Board of the Association requesting that body to bring before the General Medical Council test cases of advertising. Your three representatives on the Board went to London to present and support this memorial, and the Board decided to take steps in the matter, but subsequently relapsed into a policy of inaction. Your Council has carefully considered during the year several cases of apparent infraction of the Dentists Act, but deeming that caution is very necessary in these cases, has not as yet recommended action in any of them. Probably the most important act of the year was that effected at the special Branch meeting held in August when it was decided to invite the Association to hold the Annual meeting of 1897 in Dublin. This invitation was cordially accepted and your colleague Dr. R. T. Stack unanimously elected President of the Association for the year commencing with the Dublin meeting. It is to be hoped that all the members of the Irish Branch remembering the great kindness and hospitality with which the pleasant duty of entertaining the Association has been performed by other Branches across the water, and also the high reputation won by our own Branch at the time of the last Dublin meeting, will rise to the occasion, and all help in making the meeting of 1897 a thing to be looked back upon with pride and satisfaction."

This report and that of the Hon. Treasurer, Mr. J. S. Thomson, were adopted.

Dr. STACK said it was necessary at an early date to select those gentlemen upon whom the responsibility should rest of carrying the different demonstrations, at their meeting in August next, to a successful issue. On the last occasion when they had the Association in Dublin they had a very troublesome and onerous duty to perform in collecting a museum. The idea now was that on this occasion they should substitute for the museum a microscopic section. Since their former meeting the work of demonstrations had occupied a much wider field, and it would therefore be necessary to sub-divide it into four sections. He would propose the following gentlemen to direct them:—First Section, "Ordinary Filling and Operating Demonstra-

tions, chiefly Gold Fillings"—President, Mr. Herbert Williams; Vice-President, Mr. J. S. Thomson; Secretary, Mr. K. E. O'Duffy. Second Section, "Mechanical Demonstrations in the Workshop"—President, Mr. D. Corbett, jun.; Vice-President, Mr. P. O'Meehan; Secretary, Mr. George J. Goldie. Third Section, "Crowns, Bridge-work, &c."—President, Mr. G. W. Yeats; Vice-President, Mr. S. J. Bishop; Secretary, Mr. G. P. Moore. Fourth Section, "Orthodontia"—President, Mr. W. Elwood; Vice-President, Mr. D. McC. Smith; Secretary, Mr. S. G. Reeves.

Mr. J. S. THOMPSON seconded this resolution, which was carried unanimously.

Dr. STACK proposed, Mr. REEVES seconded, and it was resolved—"That the President elected by the Association at large, the President, Vice-President, and Secretary of the Irish Branch, and the Presidents, Vice-Presidents and Secretaries of the different sub-committees, be appointed a committee to bring into working shape the general programme of the business and entertainments of the meeting in August."

At the evening meeting, also presided over by Mr. A. W. W. Baker, some very interesting communications and incidents of practice were brought forward.

Mr. P. O'Meehan submitted a regulation case in which he shunted the position of twenty-four teeth, twelve upper and twelve lower, in the mouth of a girl of 12 years of age. In the operation he had only very ordinary contrivances. A peculiarity of the case was that one of the molars had not erupted, and he wished for a suggestion from the members as to how he would bring this about. His own idea was to use electricity. He also showed a case of V-shaped arch.

The CHAIRMAN said these cases were of very great interest in connection with orthodontia, and Mr. O'Meehan should be congratulated upon the successful result of his treatment.

Mr. J. S. THOMSON brought forward a case of premature extraction of the permanent teeth, in which the temporary canine had been extracted because of the lateral growing out of its true line. On the left hand side the second temporary molar had been taken out to make room for the first permanent molar to come forward. The teeth were over the lower lip. He found the cause of the irregularity was not so much the prominence of the upper teeth as the retrogression of the lower jaw. He would have "jumped," the bite but for the poor state of the temporary teeth.

Mr. W. B. PEARSALL thought this a good example of "lip thrust." Mr. Thomson was right in assuming that for the present the regulation of the upper teeth was unnecessary. In such a case if they spoke to the parent of the child she would always deny any bad habit, but if watched they would find the child beginning to chew the lower lip. The American books ignored this reason for prominent upper or lower jaw, indeed a great many men who wrote on the subject ignored it altogether.

Mr. G. M. P. MURRAY showed a model bearing on this case.

Mr. H. WILLIAMS mentioned the case of a young girl who had four first permanent molars in a terrible state—none of them had any crown—and all had to be extracted. Three of the four molars came all right but the other stump was not removed, it disappeared out of sight. After a time she complained of neuralgia, but no tooth could be seen causing the pain. By passing the probe above the molar of the right hand side he found the seat of the pain. Fluids had passed from the mouth through the nose. The missing stump was the cause, and this he succeeded in withdrawing by the aid of Ash's screw. The opening had quite closed up.

The CHAIRMAN said a patient came to their hospital complaining of antral trouble and pain. The patient was operated upon, and they found a fistulous opening from the second bicuspid into the gum. A small fragment of stump was washed out of the antrum, after which the patient had instantaneous relief.

Mr. S. E. REEVES submitted a case of replantation of an upper molar. The first molar on the right side he had filled eighteen months previously with an amalgam filling in the crown. The patient returned to him after twelve months suffering constant pain. The distal portion of the tooth had begun to decay and he found a very large cavity right into the pulp. He put the tooth under treatment for two or three weeks but it still gave pain. He then removed the filling in the crown and found there was suppuration in the palatine fang. He suggested to the patient removal of the tooth to put it back again. On doing this he found a very small sac upon the palatine fang. He then refilled the tooth and put it back. It had been done for the past six months and the tooth was now perfectly sound.

Mr. W. BOOTH PEARSALL read a paper entitled "A Defect in Platinum Pins."*

The CHAIRMAN said they were very much indebted to Mr. Pearsall for bringing forward these cases. It was very gratifying he had discovered the cause of the defect. He (the Chairman) hoped, as Mr. Pearsall suggested, that anyone finding such defects would return the teeth to the manufacturer.

Dr. R. T. STACK suggested the pin should be taken out and analysed.

Mr. G. M. P. MURRAY said it was his case that was mainly responsible for eliciting the paper from Mr. Pearsall. In his case there were four incisors, three of which were on the plate shown them. He wrote to the manufacturers but received a very unsatisfactory reply—they put it down to some fault in workmanship. The only practical outcome was that it should be strongly brought to the notice of the firms they dealt with and it should be impressed upon them that it was their duty to subject their platinum wire to the severest test before it was put into the pins. It ought to be possible to subject it to a very severe tensile strain and also to a sudden strain or chuck. If the whole lot of these defective teeth had to be broken up their pins should be submitted to analysis to discover if there was any alloy in them.

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* Printed as an Original Communication.

An animated discussion followed, and Messrs. Stack, O'Meehan, O'Duffy, and Moore having spoken, Mr. Pearsall replied.

Mr. J. S. THOMSON moved "That a Sub-Committee consisting of Messrs. Pearsall, Stack and Murray be appointed to make an independent inquiry relative to these platinum pins, and that a chemical analysis be made at the expense of the Branch, the Sub-Committee to report to their next meeting."

The resolution was adopted.

Dr. R. THEODORE STACK, President-elect of the British Dental Association, brought before the meeting certain points of practice that bore upon the treatment of front teeth chiefly in young children. He showed a number of very interesting models illustrating this subject.

The PRESIDENT said they were very much indebted to Dr. Stack for the very valuable paper he had brought before them. They looked forward to him bringing it before them at a future meeting and giving them a chance of discussing it. It would be impossible to do justice to the wealth of material that Dr. Stack had suggested to them.

It was proposed by Mr. WILLIAMS, seconded by Mr. PEARSALL and passed unanimously that Branch meetings should be held three times a year.

The PRESIDENT announced the next meeting of the Branch would be held in Belfast to inaugurate the presidency of Mr. Andrew.

The proceedings terminated.

Southern Counties Branch.

THE next meeting will be held at the Royal Hotel, Southampton, on Saturday, January 23.

1 p.m.—Council Meeting.

1.45.—Hot luncheon (tickets 3s. 6d. each).

2.45.—General Meeting. Papers: "Small Helps in every day Practice," by A. T. Croucher, L.D.S.Eng.; "Advertising," by Chas. Foran; "Pulpless Teeth," by J. F. Rymer, M.R.C.S., L.D.S.Eng., D.D.S.Phil. Casual communications.

Gentlemen intending to be present at the luncheon must inform the Hon. Sec. by January 19.

Trains leave Brighton at 8.50 and 10.15, arriving at Southampton at 12.3 and 1.40; and returning from Southampton at 4.45 and 6.30 p.m.

Trains leave Waterloo at 9.30, 10.15, 11.15, and 11.45, arriving at Southampton at 11.50, 1.23, 1.35 and 2.44 respectively.

FRANK V. RICHARDSON,
1, *Sillwood Road, Brighton.* *Hon. Secretary.*

Midland Branch.

PRELIMINARY NOTICE.

A MEETING of the members of this Branch will be held at the Dental Hospital, Mount Pleasant, Liverpool, on Saturday, February 20.

The Council will meet at 10 a.m.

At 11 a.m. General Meeting, at which there will be a variety of demonstrations by the members, particulars of which will appear in next month's Journal.

In the afternoon there will be a discussion on the demonstrations.

It is intended to hold the Annual Dinner of the students of the Liverpool Dental Hospital on the date of this meeting, in order to enable the members of the Branch to attend if they desire to do so.

A full programme of the meeting will appear in the next issue of the Journal.

Rochdale. I. RENSHAW, *Hon. Sec.*

Original Communications.

Some Experiments in Bridgework, with Illustrations from Practice, and an Introduction on its Engineering Aspect.*

By G. CUNNINGHAM, M.A.CANTAB., L.D.S.ENG., D.M.D.HARV.

WHAT is known in modern dentistry as bridgework is undoubtedly a branch of applied mechanics, and thence it may be described as a kind of dental engineering. As such, a study of those scientific principles, more especially as to the theory of stresses and the strength and other properties of materials which underlie all sound construction, is essential to the full development of this valuable addition to the resources of the dentist in his efforts to restore the lost function of mastication, and to obliterate the defects of lost front teeth.

The training of the engineer being essentially a scientific one, he is compelled to devote much time to the study of mechanics; while the mechanical dentist is more like the architect whose chief aim is to become an artist, and like him he has but little time, and often less inclination, to make acquaintance with the science of that department of his profession, being generally contented to found his practice on past experience, without caring to inquire into the principles upon which all good construction should be based.

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* Read at the Annual Meeting held in London, August, 1896.

Until a thorough acquaintance with the theory of strains and the strength and other properties of materials, as applicable to special conditions anatomical and physiological, has been acquired as a basis of sound practice, natural constructive talent (no matter of how high an order) must frequently be at fault, resulting either in excess and consequent waste of material and time, or, what is still more disastrous, in weakness in parts where strength is essential.

The time has gone by when practical sagacity formed the sole qualification for high engineering success, and what is true of engineering in the past applies equally to dentistry in the present. There are indeed many memorable names, generally self-taught mechanics, whom great natural ability has raised to pre-eminence in this department of our profession; but practice, now excusable and even worthy of the highest commendation, will, when the requisite knowledge of scientific principles has increased, be properly described as culpable waste, arising either from prejudice or ignorance.

I cannot do better than further paraphrase a passage from the preface of Stoney's authoritative work on "The Theory of Stresses," by substituting the word dentist for engineer:—

"The usual resource of the merely practical man is precedent; but the true way of benefiting by the experience of others is not by blindly following their practice, but by avoiding their errors, as well as extending and improving what time and experience have proved successful. If one were asked what is the difference between a scientific dentist and one who is a mere craftsman, he would reply that the one merely executes mechanically the designs of others, or copies something which has been done before without introducing any new application of scientific principles; while the other moulds matter into new forms suited for the special object to be attained, and though experience and practical knowledge are essential for this, he lets his experience be guided by theoretic knowledge, so as to arrange and proportion the various parts to the exact duty they are intended to fulfil.

"The well educated dentist should combine the qualifications of the practical man and of the physicist, and the more he blends these together, making each mould, and soften what the other would seem to dictate if allowed to act alone, the more will his works be successful and attain the exact object for which they are designed."

In a recent paper on the Practical Utility of Accurate Studies of the Physical Properties of the Teeth and Filling Materials, Dr. Black calls attention to our ignorance of many of the physical properties of the materials we employ and the forces with which we have to deal. As he says, and with perfect justice :—

"The whole matter has been left to clinical observation. Without in the least disparaging the value of clinical observation, this cannot serve as a sufficient guide to us any more than it can continue to serve as a guide to the civil or mechanical engineer in the construction of bridges or engines. In these days the engineer must know how to apportion the strength of his material to the load it must bear. Just so we, as dentists, should become able to adjust the strength of our fillings to the stress that shall come upon them in mastication, and be able to teach this in some definite demonstrable way to students."

These remarks apply with even greater force to the successful practice of bridgework.

For some time past I have been endeavouring to study this most interesting class of work from its engineering aspect, but must confess that in doing so have found the subject full of difficulties. I might easily have kept to the clinical aspect of the cases I propose to bring before you, but I desire rather to place before you some of these difficulties with a view of convincing you that a large field of research work, as yet unexplored, awaits the coming dentist, who must possess a greater knowledge of higher mathematics and applied mechanics than either you or I possess.

Let us take as a basis some authoritative work, such as Anglin, on "The Design of Structures," and make what application we can of some of his definitions and application of mechanical principles, as an indication of the direction in which true and solid progress lies.

Bridgework in the mouth may be regarded as a framed structure in gold, platinum, porcelain, or vulcanite, and as such may be regarded as an assemblage of different members composed of those materials, which are joined together by soldered caps, clasps, anchorage inlays, pins, or even it may be rivets, and arranged in such a manner as best to contribute to the stability of the structure itself; and of such form and dimensions as are best adapted to withstand the various stresses and strains to which they may be subjected from the application of external loads or forces.

This definition is altogether utilitarian, and other considerations of an æsthetic character must have their weight in determining the best materials of a dental structure; it obviously being desirable to produce something which shall be pleasing to the eye and in harmony with the surroundings.

It may be urged that such a definition includes all artificial dentures, which is no doubt true, but so much the better, for the distinction between, say, a lower denture and a removable bridge plate is a fine one, and the same mechanical principles really underlie both.

Stress and Strain.—When a structure is exposed to weights or loads, stresses are produced in its different constituent members, and it is the province of the engineer to determine the nature and intensity of these stresses, and so to arrange and proportion the members as best to withstand them. So it is the province of the dental engineer to determine the proper relation of the appliance in the mouth to the weight or load it will have to support, keeping in consideration the nature of the supporting piers, and the necessity for the maintenance of proper hygienic conditions.

An external force acting upon a bar of any material produces in it a change of form, no matter how minute. It may elongate it, shorten it, or bend it. This change of form is called a "strain." Strains may be temporary or permanent. If after removal of the force the bar regain its original shape and dimensions, the strain on the fibres will only be temporary. If, on the other hand, the bar does not regain its original shape and dimensions after the removal of the force, it is said to be permanently strained.

External Loads on Structures.—By the load on a structure is meant all the external force acting upon it. These include:—(1) *The weight of the structure itself*, which is a constant quantity and acts vertically; but is too small to be usually of any importance in our case. (2) *The live or moving* *load*, such as the force used in mastication, which varies in amount. In ordinary structure work this force always acts vertically, but in our case, besides the force acting vertically as in eating meat—except, perhaps, where the teeth are so interlocked as to make the denture, which should be of the omnivorous, one of the carnivorous type—most force is exercised in that lateral grinding motion which we know to be the characteristic of the herbivorous type of mastication. This force acts neither vertically nor horizontally but diagonally, and therefore with a strong shearing motion, though partaking more of the latter than the former direction. (3) *Wind pressure*, which affects all exposed structures, does not concern the dental engineer. As this force is a variable force acting horizontally, or nearly so, and in some cases to the engineer is the most important of all the external forces, it is a question whether the dental engineer should not regard the lateral, almost horizontal, motion of the jaws referred to above as somewhat analogous to the pure engineer's problem as to wind pressure.

Stresses and Strains.—All members of a loaded structure, except those inserted for ornament (and surely porcelain facings on bridges and crowns are that and nothing more), are exposed to stresses and strains. These terms are often used indiscriminately as meaning the same thing; strictly speaking, however, this is not so. Generally speaking they represent cause and effect. A strain is a change of form produced by the action of an external force.

Stresses are of three kinds, *comprehensive or positive*, *tensile or negative*, and *shearing*. (1) *Positive:* two equal forces acting towards each other, the bar being shortened. (2) *Tensile:* lengthening, and ultimately tearing apart its fibres. (3) *Shearing:* one part sliding across the other by cutting it across. Besides these three kinds of stresses, there are others which are frequently to be met with, the most common of which are *transverse or bending stresses* and *torsional or twisting stresses* with their corresponding strains; but these and other forms, important as they must be in the complex motions of the jaws, may be resolved into one or more of the three elementary forms named.

Measurement of Stresses and Strains.—In dentistry, a stress is measured by so many pounds. A *unit stress* is usually measured by so many pounds, cwts., or tons per square inch of sectional area of the body under stress. According to the metric system, the unit of stress is reckoned as so many kilogrammes to the square centimetre. On account of the smaller area of the square centimetre being more convenient for our purpose than the square inch, it seems a pity that the metric system has not been adopted in those instruments employed for this purpose in dentistry.

Examples of tensile, compressive or shearing stresses may be passed over for the present as not yet worked out for our purpose.

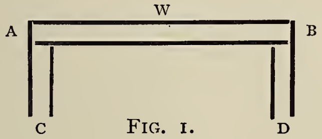

FIG. I.

Transverse Stress.—Fig. 1 is an example of transverse or bending stresses. The beam, A B, rests on two supports at C and D, and is loaded at an intermediate point by a weight, W; the beam in this condition is said to be exposed to a *bending* or *transverse* stress; but the fibres in the upper portion of the beam are subjected to a compressive stress, and those in the lower portion to a tensile stress, while shearing stresses also come into operation throughout the beam.

Elasticity.—There are other properties of materials which make them valuable for structures besides their tensile, compressive, and shearing strengths. Elasticity is the term applied to that property which materials possess of returning to their original size and shape after they have been strained; and a material is said to be elastic if the strain disappears after the stress has been removed. When a gradually increasing tensile stress is applied to a bar of iron, steel, or other material, it becomes elongated or stretched, and the amount of this elongation, or increment of length, within certain limits, is proportional to the stress applied. The same law holds good if the bar is subjected to a compressive stress. In this latter case the bar is shortened, and the amount of shortening or decrement of length is proportional to the stress within the limits named. This principle is known as "Hooke's law of uniform elastic reaction" or the "law of elasticity."

A series of experiments in gold and platinum, and the effect of their various alloys, has yet to be made, as all the elaborate experiments and tables on the properties of cast and wrought iron are of little use to us except as proving the truth of the above law.

Limits of Elasticity.—The limits of stress between which bodies are elastic are termed their limits of elasticity. The range of these limits is very much greater in some materials than in others. Lead, for example, has little or no elasticity. If it be strained to any appreciable extent, it will be found that when the stress which produces the strain is removed, the strain itself does not suffer any appreciable diminution. Lead, therefore, may be called a non-elastic substance. On the other hand glass is very elastic. If it be strained just up to its breaking point, when the stress is removed it regains its original dimensions. Iron and steel occupy a position intermediate between lead and glass as regards their elasticity. They are elastic, or nearly so, up to about one half of their ultimate strength. When a body under stress passes its elastic limit, the increments or decrements of length increase at a much more rapid rate until finally rupture takes place.

Elasticity a Measure of Strength.—The elasticity of a material used in a structure is a very important measure of its quality, even more so than its ultimate compressive or tensile strength.

Modulus of Elasticity.—Let L = length of bar in inches; P = stress applied to it in tons per square inch; 1 = increment or decrement of length in inches from the stress P. From Hooke's law, when P varies, 1 will vary in the same proportion, so that the expression $\frac{P + L}{1}$ is a constant quantity for all values of P within the elastic limits of the material. This expression is termed the *modulus of elasticity* of the material, and is usually represented by the symbol E. Consequently we have $E \frac{P + L}{1}$ . . . . (1). In this equation if we put $L = P$ so that the modulus of elasticity may also be defined as that tensile force in tons per square inch, which, if applied to a bar, will double its length, on the assumption that the material is perfectly elastic up to this point. Of course, it is unnecessary to remark that no structural material with which we are acquainted fulfils this condition. Some materials like wrought and cast iron yield more to compression than extension, but we have no data on which to determine the modulus of elasticity of the materials employed in dentistry.

Dr. Black found that with a compressive stress of 150 lbs. on blocks of $\frac{8}{100}$ in. sq. dentine from living teeth there was perfect recovery of form, and that the same stress may be repeated time and again, the block returning to its original measurement. "If, however, the dentine is compressed to very near its crushing point, permanent injury results, and it fails to return to its original form." Average crushing stress: $\frac{8}{100}$ in. sq. = 238 lbs.; blocks compressed 209 per cent. at 100 lbs.; blocks compressed 403 per cent. at 150 lbs. Average strength decreases (*a*) with advancing age, (*b*) in pulpless teeth, (*c*) in teeth much worn by attrition.

Set.—When a bar of iron is put into a testing machine and exposed to a stress, it becomes elongated or shortened, according to the nature of the stress as already explained. When the stress is removed the bar returns to its original length, if it be not strained beyond its elastic limit. If the bar be further strained by a stress beyond its elastic limit, then when the stress is removed the bar tends to regain its original length, but does not quite do so. In this case the elasticity of the material is said to be destroyed. The amount of the temporary extension or contraction of the bar in the first case is sometimes called its temporary set for the particular stress which produces it. The amount of the permanent extension or contraction in the second place is called its permanent set, or simply "set." Strictly speaking, any stress, however small, produces a permanent set, but its amount is so minute, until the limit of elasticity is reached, that practically it may be ignored. No member of a structure should on any account be strained beyond its limit of elasticity, for in such case not only will the strength of such a member be permanently impaired, but, on account of its permanent alteration in length, additional stresses will be thrown on adjacent members, which they are not designed to sustain. It will be readily seen, from what has been said, that it is not advisable to have members of the same framed structure made of different materials when there is much difference between their moduli of elasticity.

Ultimate Strength—Working Load—Factor of Safety.—The ultimate strength of a material is the direct stress which produces rupture. The working stress on a member of a structure is the maximum stress to which it is subjected in actual practice. The ratio of the ultimate strength to the working stress is termed the factor of safety of the material. In order to determine the proper value of this factor, a number of considerations must be taken into account. A great deal depends on the character of the working load. Dental bridgework is subject to intermittent loads, or loads which are repeatedly or suddenly laid on or taken off again, in this respect resembling the crane.

Value of the Factor of Safety.—The factor of safety varies, or ought to vary, with the nature of the working load. For a structure like a crane, wholly exposed to varying and jerky loads, it ought to be higher than in a structure like a bridge, or a roof, where the working load is made up of a dead and a live load; and still higher than in the case of girders which support the walls and floors of a warehouse. In fixing the factor of safety, another consideration must be taken into account, and that is the nature of the material itself. Some materials are more reliable than others; for example, wrought iron and steel are more reliable than cast iron. Some engineers prefer to take the elastic limits of the material, instead of its ultimate strength, as the basis for fixing its factor of safety, and perhaps this is the more intelligent method. Experiments made by the late Sir William Fairburn, and more recently by Wohler, confirmed this view.

Fatigue of Materials.—When a load is suddenly applied to a girder, it produces a momentary deflection much greater than that would be produced by the same load at rest. In the same way if we take a bar of wrought iron, whose ultimate tensile strength is equal to twenty tons per square inch, and apply a much less tensile load suddenly and very often, so as to produce elastic vibrations in the bar, it will be found that this load though much less than the statical breaking load of the bar, for example, be applied, it will not produce rupture at the first application, nor even when it has been applied a thousand times; but in the long run, if the number of applications be sufficiently numerous, and suddenly imposed, the bar will fail. This deterioration produced in the fibres of a bar by repeated applications of the load, is known as the "Fatigue of the Material." This tendency to fracture is increased if the bar be subjected alternately to both compressive and tensile strains.

Properties of Material used in Bridge-work.—The principal materials used in structural work in the mouth, if we except the tooth substance itself, are: *Gold*, *Platinum*, *Porcelain*, *Vulcanite*, &c. A thorough knowledge of the leaning characteristics of these materials is essential to the highest development of bridge-work on scientific lines, but, unfortunately, we have not at our command the numerous tables of tensile and transverse and shearing strength of the materials employed in ordinary structures. Meanwhile, some points from practical experience are worth consideration.

Gold.—The outcome of experience has shown that 18 carat gold and solders carated accordingly are the most satisfactory in the manufacture of ordinary dentures. The contrasting feature of bridge-work has been the employment of gold of 24 to 22 carats, and appropriately graded solders. No doubt this has facilitated greatly the adaptation of the appliance, but I am convinced that it is an error, and anticipate that in time we shall be using specially combined alloys of 22 to 20, if not 18 carat, quality, the use of pure gold being confined to exceptional cases, where it forms a basis or foundation which must be burnished in the mouth to the required position, and be afterwards reinforced by stronger gold alloy. And, further, the best ingredients of that gold alloy are not yet determined, and certainly must be based on mere colour effect, the not unnatural desire on the part of the Dental depot to give, or the dentist to have, a rich coloured gold. That must be subservient to working, and still more wearing, properties, for the gilding battery supplies all our æsthetic requirements. The marvellous toughness too of electro deposited gold plate by the Hamar process is sufficient to prove that we have yet much to learn of the properties of gold in its various forms.

Strength of Welds.—Some laboratory experiments on the relative strength of seamless tubes, sweated edge to edge, and overlapped joints in gold bands would be of great value.

Anglin says: "There is a popular belief that the strength of a welded joint is as great as that of the bar itself; and no doubt this is so when the iron is of a quality well adapted for welding, and when the greatest care is taken by using a clean fire, scarfed joints, &c. Experience, however, proves that the strength of the weld is nearly always less than that of the original bar, in some cases to the extent of 50 per cent. For this reason, and also on account of the cost, welds should be avoided, if possible, in structural work; and if they have to be made the bar should be swelled out, so that its sectional area be greater at the welded joint than at other parts. By this means the deterioration of strength suffered by the welding process is partially or wholly neutralised."

In making masticating bars in bridgework, we prefer to make the upper part in one whole length, reinforcing underneath, to making covers to caps, and soldering the intervening bar spanning the space.

Platinum.—In combination with porcelain, this is the only material possible in certain cases. From the absence of any danger of sweating or melting under the blow-pipe, platinum has replaced gold in many cases where its use was not absolutely essential. Pure gold as a solder may suffice in continuous gum-work, but it is not at all clear that it is the proper solder for platinum. Some unfortunate experience with different cases from the same place of iridio-platinum plate, led to some inquiries which serve to prove that the platinum plate we employ is not so constant and regular in its character as gold plate, and that the iridio-platinum is but incompletely purified platinum, and not a definite percentage alloy of iridium with platinum.

Porcelain.—Till very recent times little or no advance has been made since Dr. Allen's work in 1845. The body of gum then formulated has stood the test of time and experience, with little, if any, alteration, but is still the best type of a high fusing body.

The recent lower fusing ceramics supply a want, and in small cases have proved to be of adequate strength, but they seem to vary considerably in their liability to crack in larger cases. That which we owe to, and which has been so ably demonstrated before us on many occasions by Mr. Rose, seems to be one of the best of the low fusing bodies.

In the manufacture of a removable bridge of three Butner platinum caps, joined by a strong curved bar of iridio-platinum, I found that after the requisite bakings of the high-fusing continuous gum and body that the caps always altered in position, so much that it was impossible to pose the bridge. Different bars of soft and hard platinum and of various thicknesses were in vain, yet on the piece being made in vulcanite the fit was perfect. Porcelain, too, has one quality over all other materials used in bridgework, whether metal or vulcanite—the comparative ease with which it can be kept clean.

Vulcanite is little used either in crown or bridgework, but in certain cases it is invaluable and deserves further trial, especially where economic considerations are of first importance. But time and labour are the most costly factors, after all, and efforts to economise in the interests of the patient lead to loss on the part of the practitioner.

Tin.—Cast tin, or some alloy of tin, has been successfully used, especially by Dr. Herbst, of Bremen. Its advantage is mainly economic, from its small intrinsic value and from the facility with which it may be worked. In special cases I have employed it as the best material under the circumstances and with perfectly satisfactory results.

(*To be concluded.*)

Reminiscences of Fifty-four years in the Dental Profession.*

By A. J. WOODHOUSE, L.D.S.Eng.

In deference to an urgent request made by your Hon. Sec. and others, I am here to-day to give you some account of my observations and experiences during the unusually long period in which I have been working in our profession. Much that I shall say must be well known to our elder members, but I trust that they will patiently bear with me, as my remarks are more especially addressed to the younger men, to whom I hope some of the facts I shall relate may be new and interesting, as in all probability they are not aware of the condition of their profession half a century ago.

I shall not treat of the rise and development of our hospitals, professional societies or dental political progress, as these subjects have been amply considered and commented on by others.

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* Read at the Annual Meeting of the Association held in London, August, 1896.

My acquaintance with the profession commenced in 1842, at which time there was no means of acquiring a knowledge of it but by apprenticeship to a dentist. I had the good fortune to be placed with Mr. Thomas Sheffield of Exeter, who was in the fore-front of the best practitioners of his day. Among those I met I may mention the original Mr. Cartwright, his son "young Sam" as he was then called—we have since known him as "old Sam" ere he was taken from us — Mr. George, nephew of the elder Cartwright, Mr. Arnold Rogers, and his sons Thomas, Henry and Joseph; Mr. Naysmith, who then had the Royal patronage, to whose practice and Royal patronage Sir Edwin Saunders succeeded; Mr. Parkinson of Sackville Street, before that of Racket Court, and Thomas Bell the eminent naturalist and F.R.S., Isaac Sheffield, brother of my master, and Mr. Biggs. Sir John Tomes was then a young practitioner, but already a marked man, holding from about that time the appointment of Dentist to the Middlesex Hospital; I had the pleasure of being introduced to him soon after I came to London, by my uncle, Dr. Mantell, the geologist. My articles bound me to Mr. Sheffield for four years, in them he undertook to teach me "the art, mystery, and professional employment of a dentist," and I promised "to serve him faithfully and keep his secrets."

The mode of instructing me that Mr. Sheffield adopted was to work with me at the bench and occasionally to take me into his surgery, where I saw him operate. I was also at his side when he saw the gratis patients who came to him each morning at nine o'clock to be relieved of pain. I did all his mechanical work during my apprenticeship, and after about three months he gave the care of the gratis patients into my hands, and I well remember when I went down alone to extract my first tooth, which I am happy to say I accomplished successfully. From that time I selected from among the cleanest of these poor people those who needed teeth stopped, and attended to them. Mr. Sheffield used to examine the teeth when I had prepared them, and afterwards when the filling was completed, but he soon left me to my own devices, except when any great difficulty arose, when he always came to my help. After about a year or so, he left me in charge of his private patients when he went for his holiday.

Among the dentists of those days there were a very few who were members of the Royal College of Surgeons. A great proportion of those who practised had had no professional education and indeed, many, little education of any kind.

Then all dentists jealously guarded their modes of practice, few knew other members of the profession, for each worked as a hermit in his cell, and allowed no one out of his house to know any detail of his work. It was a common thing to hear a man say "he would give anything to know how So-and-so stopped with gold," for other men's work would occasionally be seen in a patient's mouth.

This was a very different state of things to the splendid education young men now get at the general and dental hospitals, where they are well prepared for their profession and taking appointments as operating assistants, a position quite unknown until some thirty years since.

We, at Exeter, made most of our own instruments, for those to be bought were very indifferent; we even made our own forceps, carefully adjusting them to the teeth for which they were to be used, though about this time Everard made forceps which to this day are unsurpassed. He has been dead now for some years, but we are fortunate in having his pupil and assistant, Daniel Collins, still following faithfully in his steps.

I believe that the first dental depôt was started by Claudius Ash in a small house, No. 9, Broad Street, Golden Square, where, when I first knew him, the old gentleman reserved to himself the work of cutting out the gold plates which I and others took to him; the business has now enormously developed and supplies everything needed for carrying on our work. There are also many other firms which now vie with his in ministering to our wants.

Before the days of the engine we had nothing but the file and the enamel chisel for dividing teeth, and these were used very freely, the idea being that it was most desirable to have a wide wedge-shaped division between teeth that had decayed interstitially. Although this plan preserved the teeth, it reduced their usefulness considerably, for the masticating surface was much diminished, and the food collected in the spaces, and jammed painfully on to the gum.

Contour stoppings have been long since introduced; these restore the form of the teeth, which can be kept from further decay by the diligent use of floss-silk by the patient.

The dental engine was invented by Morrison, an American; it was not introduced without causing some trouble, for Morrison had to defend (and successfully) a patent action brought by the inventor of a sheep-shearing and horse-clipping machine.

My friend, Charles Tomes, sends me the following interesting information:—" Morrison having one day to cut down a large gold filling, wished that he could carry an arm through the wall from his grinding lathe to do it, and from this desire he set to work to see what could be done, and his engine was the result. Mr. Tomes himself saw at St. Louis the early models which Morrison made in his experiments. The essential feature of the engine is, as you all know, the conveyance of power round angles by means of a spiral; this is an adaptation of an invention by Naysmith, the engineer, in the year 1829. The flexibility obtained by the two coils, and the various appliances fitted to the engine, make it an invaluable help to us. By young hands it should be used with great caution, as it sometimes works faster than is expected, with disastrous results. Although so exceedingly useful, I never consider a cavity finished by it, but always examine every part with a hand instrument, for the burr glides over minute fissures of decay which would be practically impossible to discover with the eye when smoothed over by the drill.

The rubber-dam (an American invention) and the saliva vacuum pump are both of comparatively recent introduction; before their day, when it was necessary to keep the tooth dry, pads of linen were used, and napkins were often placed under the chin to catch the saliva as it ran from the patient's mouth.

Wedging teeth was quite unknown, the cavities in upper incisors were reached either by making wide divisions between them, or by cutting away the inner approximal edges so as to make a V-shaped cavity, leaving the outer enamel untouched, this plan I generally have adopted, and in most cases it preserves the teeth far better than wedging them. I always use a mirror in preparing and filling such teeth.

Until 1849 the syringe was not one of our instruments. In that year a man called upon me selling glass syringes for injecting nitric acid into very tender teeth . . . a suggestion which reads strangely nowadays.

It occurred to me the syringe might be used to wash out cavities as they were being prepared, and with this view I bought a couple; finding that they did the work admirably I had one of the same shape made in silver, which I still use; before the syringe, the loose fragments had to be removed with cotton-wool and an excavator.

Our materials for hard stoppings were gold and tin; precipitated silver and mercury and Sullivan for amalgams. We, at Exeter, in my early days, got our leaf gold and tin from local gold-beaters, and we often had difficulty and delay in obtaining it; I had sometimes to go to their workshop and wait while it was beaten, and then too often, it was most unsatisfactory. Perhaps in nothing has our material so improved as in the preparations of gold with which we are now so easily and admirably supplied. Mr. Sheffield taught me, and I have continued to use gold and tin in combination. The softer tin at the cervical portion of the cavity insures a perfect sealing up against moisture, and the gold, from its denser character, resists the wear and tear of mastication; both are used in long rolls, lightly folded and twisted, the width of the strip of metal being regulated by the size of the cavity. The gold was never annealed but was put in so firmly that it lasted for twenty years or more, nor was special care taken to keep the cavity dry, and yet the stoppings preserved the teeth for many years, showing that the most important matter in successful stopping, is the perfect preparation of the cavity and pressing the stopping so firmly into it that no moisture or food can afterwards find access; the little moisture left causes the tin to oxidise, forming a hard black mass which adheres to the dentine and entirely prevents decay. The adhesive gold stopping is comparatively modern, though probably it is twenty or thirty years since it was first introduced; it is invaluable in certain cases, but is often used when the old-fashioned stopping would be much more suitable.

Makins, our first lecturer on metallurgy, made some sponge gold, which, however, did not come into general use. The gold for adhesive stoppings is largely manufactured in America.

The great objection to amalgams made from precipitated silver was that they stained the teeth black and were not very hard, but they did not shrink, and in many cases lasted for years. Sullivan still holds its ground, and is invaluable in certain cases and utterly useless in others. From time to time other amalgams have been introduced, some, such as that of cadmium, with a great flourish of trumpets, but in practise it proved worse than useless, for it soon disintegrated and stained the tooth a bright yellow. We have now amalgams which are in every way satisfactory, though sometimes employed too freely. Probably the "osteos" have proved the most beneficial in saving delicate teeth, but the temptation to use these, where gold should rightly be employed, is, I fear, sometimes too great to be resisted. Then gutta-percha fills a most useful niche and is invaluable in its right place. The first osteo stopping I saw was in the mouth of a patient, and had been put in by a dentist in Boulogne. Although it had been done about three weeks, I found some of the waste material adhering to the smooth surface of the enamel of an adjoining tooth; this indicated to me a valuable characteristic and I at once adopted it.

For some years after I entered the profession, we had no means for destroying the pulp; red-hot wire, pure nitric acid, and other plans were tried unsuccessfully. It was a trite saying, "the nerve is exposed, therefore the tooth must come out." At last arsenous acid was found to be successful, and the treatment of the pulp cavity began, first the removal of the devitalised tissue with fine steel or gold wire, on which we raised spitchings ourselves, and then by instruments better and better suited for the purpose. Later still the treatment of roots—which had been so long dead that they had become thoroughly unhealthy — was introduced. So conservative dentistry advanced, and teeth are now preserved for years which formerly would have been ruthlessly removed.

The dental pharmacopœia has wonderfully developed of late years; we had camphorated spirit, oil of cloves, creosote, nitric acid, tincture of myrrh, tannic acid, and that was about all; our modern practitioner would find himself very much at sea without carbolic acid, perchloride of mercury, iodine, chloroform, and very many other medicaments which are now generally used.

If it were desirable to pivot an incisor, and the pulp had been long dead, unless a little fistula existed, or the scar of one, on the gum, we did not venture to do it, for we had no treatment for restoring the pulp cavity to health. But if the pulp existed, we had to destroy it mechanically, a fine softened broach being used, and that of course without any anæsthetic; but patients were plucky in those days. For many years natural teeth only were used for pivoting; the crown being drilled and tapped, the wire was carefully screwed into it, the pivot being then cemented into the root with gum copal dissolved in ether. Later on, mineral teeth were used, and still more recently, crown and bridgework.

Anæsthetics were invented during my pupilage, the first was sulphuric ether administered by an apparatus sold by Squire, of Oxford Street; but within a short time chloroform was introduced by Dr. Simpson, and we at once adopted it, and during the many years I used it, fortunately had no mishap. In the early days it was so little known that I was asked by Mr. James, who kindly considered me his pupil, to attend the general hospital and administer it when a capital operation was to be performed.

To those who were acquainted with the operating theatre before the use of anæsthetics, their introduction was the greatest blessing. To the patients they were an inestimable boon, to the surgeons the greatest help, and to the onlooker, with any sympathy, an untold relief; for to watch a human being vivisected with all the agony resulting, was more than most nerves could stand until they became accustomed to the sight and cries of the patients. In our branch of the profession they have removed the great horror of extraction; but in general surgery what marvels are now possible, which without anæsthetics would be absolutely impossible.

Having glanced at the surgical side of our professional work, I will now say a few words on the mechanical.

The only material we then used for taking impressions was bees-wax, and we often had the greatest difficulty in obtaining a satisfactory model. Since then we have had "Stent," "Godiva," gutta-percha and plaster of Paris, each most useful in its right place.

We did not make our own metal casts for moulding our plates, but had to take our plaster models to a foundry where they reproduced them in brass, and we often had to wait some days before they "had a melt."

We made one cast do, and if by any chance this was spoiled, we had again to wait for a melting day. Every thing was deliberate before the time of railways and electric telegraphs.

In the early days of which I am speaking, eleven out of twelve dentures were mounted with natural teeth; Ash never would keep them. The purveyors of them called on dentists with mysterious linen bags containing sets strung together on wire, they were always very reticent as to where and how they obtained them. Even in the few cases in which mineral front teeth were used, bone blocks supplied the place of molars. These tube mineral teeth were made chiefly by Ash, but there were some miserable grey flat teeth called "French," which probably came from that country. Since then Ash has given us shaded teeth, and gum teeth, and S. S. White has contributed most natural imitations, and there are other makers whose teeth are first-rate. Later we have the continuous gum work, which is perhaps the most perfect substitute in appearance for those which nature gives us. The plate was usually made of gold, but in many cases the teeth of hippopotamus or walrus were carved to fit the model of the mouth, the enamel of the former being sometimes cut into teeth, but more often natural teeth were let very beautifully into the bone base as far as the bicuspids, the bone itself being carved into the molars; this was a very tedious process, but the result was satisfactory, except that in certain mouths the bone softened very rapidly, not lasting two years; but perhaps this was a greater disadvantage to the patient than to the dentist, for those who wore such teeth were as good as an annuity to him.

Plates were rarely kept up by suction; though some patients who gradually lost the teeth that supported their artificial dentures, accustomed their tongues to support the most ill-fitting plate. Springs were the rule for edentulous mouths.

It was when vulcanite was introduced that we had a material which enabled us to get perfect adaptation, consequently the means of keeping teeth in their places without springs. The vulcanite was at first cooked in a dry oven and generally came out more or less spongy, whereas now we can, with a self-regulating boiler, ensure its solidity.

We then made our own swivels, drew our own wire, got our own gold plate made by a local gold and silversmith, reducing it in our own mills to the right gauge.

Our correcting plates were made of gold or silver and were generally fastened in the mouth and removed only once a week by the dentist, thus greatly endangering the future health of the mouth ; wooden wedges were used—we had no hickory then—screws also were among the active means for moving irregular teeth, also a plate in the lower jaw with an inclined plane for pushing out upper teeth that shut behind the lower. The introduction of platinised gold strips, piano wire, or india rubber to act as springs, and vulcanised rubber for the plates, so arranged that they can be removed and replaced by the patient after each meal, are an infinite advance on the old method, and a great advantage in every way to the patient.

When I commenced practice in London, in 1848, I did all my mechanical work myself, going to my workshop in the intervals between seeing patients, ceasing at six o'clock, dining and resting till eight, and then going to my workroom till two in the morning, when I dropped my tools and went to bed. I generally worked at the bench in gloves to keep my hands in condition for operating. As soon as I had work enough to employ a mechanical assistant I engaged one.

I have thus run through the various departments of our work, seeking to show you how the profession has evolved. As you are all acquainted with the present condition of things I have not occupied your time by enlarging on them. You now enjoy so many advantages in appliances, the result of the thoughts of many minds, and the experience of many hands, that you may do well to remember the many difficulties against which those who preceded you had to contend.

To me, the practice of my profession has always been a great pleasure. I do not mean to say that there have never been any *mauvais quarts d'heure*, both for myself and my patients, but the occupation generally was, to me, very agreeable. The overcoming difficulties successfully is always pleasant, and there are always plenty of them in each branch of our work, but when successfully met, there is not only the pleasure resulting from success, but that of having conferred a lasting benefit on one's patient, and on looking back on the day's work there is the satisfaction of knowing that the day has been well spent.

There is no doubt that our profession is an arduous one, but it has its advantages; the work is definite, and we are conscious of success or failure, which in other branches of the medical profession is not always so certain. Then our work is done at the end of the day, which is more than can be said of most professions; again, a good long holiday is easily taken once a year, and shorter ones occasionally, and it is these which more than antagonize that constant strain while at work. I attribute the health I still enjoy to the ample holidays I have taken each year. One of my mottoes has been, "To work hard and play hard," doing the latter takes one completely out of the rut of work and gives the mind and body fresh employment.

While speaking of the health of dentists, it may not be considered out of place if I mention the plans I found most, conducive to my own. I always took a certain amount of out-door exercise, and avoided stimulant with my light mid-day luncheon. I took as much rest as possible in the evenings.

As I said when I commenced, my remarks have been especially addressed to our younger members, to whom the experience of one who has been over half a century in their profession should be interesting and somewhat useful. I therefore trust that those who have honoured me with their presence who are more nearly my contemporaries will forgive me for dwelling on much with which they are quite as well acquainted as myself.

DISCUSSION.

The PRESIDENT: I am sure you will agree with me that we are very much indebted to Mr. Woodhouse for his excellent and interesting paper. It is not one perhaps to call forth discussion, but we shall be pleased to hear any remarks that may be made upon it.

Mr. ROBBINS: I do not think it ought to pass without something being said, seeing that it bridges over a space of half a century, and has been given by one who is respected and loved by all who know him. I am sure I only re-echo the feeling of all here when I say that we wish Mr. Woodhouse many years to enjoy his well-earned rest. He has had a unique experience, and I think few men could tell such a tale of hard work and great success. He told us, I believe, the secret of his success. He was fond of his work, and consequently the work was not a trouble to him. May I, in conclusion, offer Mr. Woodhouse—and I know it is the sentiment of everyone of us—the wish of the unknown poet:—

> May many years of peaceful rest
> Be yours by right; long may the time delay
> When sombre shadows lengthen in the west,
> And time is changed for rich eternity!

GEO. BRUNTON: As a younger member, I should like to add my thanks to Mr. Woodhouse for his very agreeable and instructive reminiscences.

Notes on the Hypoplasia of Enamel.*

BY S. SPOKES, M.R.C.S.Eng., L.D.S.Eng.

MR. PRESIDENT AND GENTLEMEN,—When I heard that a few short communications were required for this meeting, I remembered that I had, awaiting tabulation, some 2,000 records of scholars' mouths in which I had noted the presence or absence of two conditions with which we are all familiar, namely, enamel defects and injury by fracture. It seemed a good opportunity to utilise these records for the purpose of estimating the proportion of cases of these conditions which we may expect to meet with in practice, and of asking your opinion as to treatment.

With regard to the first, still known by the old-fashioned terms, ridged incisors and honeycombed molars, I would suggest that we might well adopt the term hypoplasia, as proposed by Zsigmondy and Grevers, and which seems to be displacing on the continent the misleading name of erosion, as used by Magitot at the International Medical Congress in London in 1881, and by Dr. J. K. Barton, at the British Medical Association last year. The latter observer came to the conclusion that the faulty development of enamel was mainly caused by errors in feeding during the first years of life. I do not propose, however, to say much as to the etiology of hypoplasia more than to recall that we are all probably agreed that the defect is due to interference with the child's nutrition, and that possibly several factors exist, any one of which may bring about the disturbance.

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* Read at the Annual General Meeting, August, 1896.

Dr. Barton, however, mentioned that out of 202 children, he had found ten cases in which the permanent teeth, and five in which the temporary teeth, were affected; and I remember saying at the time that 5 per cent. and 2½ per cent. was a fair estimate, so far as one's general recollection of cases went, and without examining records. It is only within the last few days that I have compiled some figures. There were records of 2,154 mouths to deal with, made up in the following way:—

258 College boys in one of our Public Schools.
987 Boys in a Poor-Law School.
103 Boys in a Poor-Law Ophthalmic School.
726 Girls in a Poor-Law School.
80 Girls in a Poor-Law Ophthalmic School.

As one was anxious to find the ratio of occurrence of two conditions affecting the permanent dentition, it was necessary to take out from the above 146 boys and 104 girls who might be described as infants, thus leaving a total of 1,904. Amongst these were 147 cases in which hypoplasia was present, *i.e.*, 7·7 per cent. But they were distributed thus:—

College Boys ...	258	12	4·6 per cent.
Poor-Law Boys ...	841	60	7·1 ,,
Ophthalmic Boys ...	103	17	16·5 ,,
Poor-Law Girls ...	622	47	7·5 ,,
Ophthalmic Girls ...	80	11	13·7 ,,

Now it seems strange that whilst the teeth of the Public School boys were only affected to the extent of 4 per cent., the children in the Ophthalmic Poor-Law School showed 15 per cent., and each class was examined with equal care. Must we not find an explanation in the fact that the former in early life were not subjected to the same extent to the causes which may produce hypoplasia? But now, leaving the well-to-do class out for the moment, let us compare the ophthalmic children with the children in the ordinary Poor-Law School. The latter come from the City and St. Saviour's Parish, Southwark, and show a percentage of 7 per cent., much higher than the Collegians, but not half that of the children seen in the Poor-Law Ophthalmic School. Although most of the ophthalmic children come from such parishes as Mile End, Poplar, and Bethnal Green, and probably from a class lower than do those in the City, yet one can scarcely think that all the difference is due to this. There might be some temptation to try and establish a relationship between a tendency to eye affections and hypoplasic teeth, but the circumstances will hardly warrant this, and one prefers to leave the discrepancy unexplained.

Now, in taking out the above figures of enamel defects, I have only included those which refer to the ordinary ridged or pitted incisors and honeycombed molars, which showed, more or less regularly, the tide-marks on the crowns of the teeth produced by some constitutional disturbance. But one also noticed instances where bicuspids shared in the defect. Although this is considered rare, one finds noted in these records 12 such instances; and it may be mentioned that, although some deny that any later teeth are affected, Berten, of Würzburg, has recorded three cases where the second molars were affected, and Witzel claims to have observed hypoplasia of the third molars. Berten thinks the reason why the later teeth are seldom affected is simply due to the fact that there is a greater resistance, on the part of the individual, to the causes of hypoplasia. In one of our cases, where all four first bicuspids were affected, it is noted that the "tide-mark" on the central incisors was high up at the neck, which is what one would expect. But no one can observe many instances of hypoplasia without noticing that the regularity of the tide-mark does not always coincide with the usually accepted ideas. Although one found 27 cases in which the upper laterals had escaped, the following were also noted:—Upper canines escaped, centrals and laterals affected, and cases of the molars escaping; and, on the other hand, where they were alone affected.

It should be pointed out that one has not included, in the cases tabulated above, instances which the writer regards as teeth modified in form (suppression of cusps) by syphilis, but not ridged or pitted as in ordinary hypoplasia. Six cases where molar crowns were "modified," one with the upper centrals so affected, and two cases of the true Hutchinsonian type, were met with. In four other cases diagnosed as subjects of hereditary syphilis, the incisors and molars generally were modified; and in one, the incisors were peg-shaped, with the left upper central and right lower lateral incisors notched.

Other cases of enamel defects, not included in the figures, were those where a single bicuspid had deficient enamel. This is not infrequent; and the extent of the defect may vary from a pit or patch to a total absence of enamel. It has been suggested that a local origin, rather than a constitutional one, should be looked for in such cases, and a plausible explanation has been found in the shocking state in which abscessed temporary molars are sometimes found. It does look as if this might account for the enamel defect in the bicuspid developing beneath, but, curiously enough, in none of the 37 instances met with did the records (many extending back four years) show that the molar, which preceded the bicuspid, was abscessed. On the other hand, one counted seven or eight instances in which abscessed temporary molars were followed by bicuspids with perfectly sound enamel. In case any one wishes to hazard a guess as to a possible cause, it may be mentioned that the distribution of these faulty bicuspids was 8 in the upper jaw, and 29 in the lower, where the right second bicuspid provided 11 instances, and the left second bicuspid 9.

B^2	B^1	B^1	B^2
2	1	4	1
B_2	B_1	B_1	B_2
11	6	3	9

With regard to hypoplasia affecting the temporary teeth, the 250 "infants" produced fifteen cases, exactly 6 per cent.; whilst among the older children, with permanent incisors and molars, but also with temporary canines and molars present, there were 10 instances of hypoplasic temporary teeth. Whatever the cause may be in these cases, it must occur *in utero;* and it may be suggested that the prolonged attacks of the vomiting of pregnancy, which sometimes make their appearance as late as the seventh month, may so intefere with the nutrition of the mother as to affect the developing teeth of the fœtus.

I had also prepared some statistics upon fracture, but found the subject of hypoplasia so extensive, that although I have been at pains to condense, as far as possible, I fear I have already taken too much of your time. In conclusion, I show a photograph, which demonstrates the stage of development of the permanent central incisor at the period of eruption of the temporary tooth.

DISCUSSION.

Mr. Smith Turner: I should like to know if Mr. Spokes could tell us what the patients were suffering from in the Ophthalmic Hospital. Was it entirely from ophthalmia? I do not see how ophthalmia itself would tell us anything about it, but I can understand local diseases—diseases of the central yellow spot, and so on—helping Mr. Spokes in his enquiry. The question of what the eye diseases were which the patients were suffering from would, in that view, assume some importance. I made a note in reference to the proportion of patients in the Ophthalmic Hospital and other patients of which Mr. Spokes made his observation; but that he answered further on in his paper. I found the percentage was very much higher amongst the so-called ophthalmic patients, and that made me ask the question as to the nature of the disease from which they were suffering. It is a very curious thing to observe the defective bicuspid—single bicuspids. Frequently we see them defective, with brown stains on the pits of the enamel, perhaps only one in a full set of teeth, the other teeth being very good. I noticed a case lately in which one lower bicuspid only was defective, all the other teeth being exceptionally good. I have also noticed in those cases that the dentine is hard and able to take care of itself despite the paucity of enamel covering. That is a point which is worthy of notice. I think Mr. Spokes has opened up to us a field for observation which may be most interesting, and certainly might be productive of good.

Dr. Grevers (of Amsterdam): I was very pleased to hear the paper of Mr. Spokes, because it has added to our knowledge. I shall not go much into the general question, but only deal with the etiology of hypoplasia. My experience of hypoplasia is, that in Holland the people are differently constituted to what they are in England. As far as the bicuspids are concerned, they are surely exceptional cases. In my experience the bicuspids sometimes are affected, and I know of a family—and, curiously enough, the parent was a dentist—in which all the children without exception—and there are seven—have hypoplastic teeth, and all the bicuspids are affected too. With the exception of the second and third molars, the incisors, upper and lower, and the second incisors, and the four bicuspids, upper and lower, are all in a hypoplastic condition. One must be very careful in pronouncing what is hypoplastic, for I remember a case in my clinic not long ago, when I found the patient, a man of about 35 years of age, with a peculiar ridge on the four bicuspids. I had, for some reason, extracted a tooth, and making a section of the tooth I found there was a ridge on this bicuspid, but it did not show the peculiar structural change in the enamel. Curiously enough, I was in doubt for a moment whether this could be a hypoplastic condition, but the microscopic section showed such was not the case. My experience is—and I have had a little experience in this line in following children from very early childhood up till later life—that really in cases where we have only one single bicuspid affected by the hypoplastic condition, in the majority of cases that was due to the eruption of the teeth. The temporary molars had suffered from chronic periostitis, and I found they wanted roots, and either an abscess had formed or some inflammatory condition was present. Such an abscess or inflammatory condition of the first temporary molar might be productive of the black and brown stain or a deformity of the teeth which might be taken as a hypoplastic condition. I sometimes thought I had found a hypoplastic condition of the temporary teeth, but when I enquired of the mothers, who generally came with the children, I found that when they were very young—before they were a year old or a year and a half—the children were kept quiet by giving them a composition of bread and sugar put into linen bags, which the child was given to suck. I may say the children in England are better off than they are in Holland, for in an orphan asylum which I have visited there, I have found the large majority of children affected with hypoplastic teeth. In the children of orphan asylums, whose parents have died of tuberculosis, I have found the teeth to be hypoplastic. In the higher classes of society in Amsterdam, I found the very large majority having hypoplastic teeth, and I was surprised to hear Mr. Spokes say that in England it was only 4 per cent. I am sure that is not the condition in Holland.

Mr. HARTLEY: I think we are indebted to Mr. Spokes for bringing this question of hypoplasia forward. We are often asked in our practice what causes the condition. I think the causation is a most important matter, and one we want further light upon. As far as I have been able to gather from the writings of others on the subject, the causation seems to be divided under two heads, and I have endeavoured as far as possible, in inquiring from my patients, to elicit whether these ideas were correct. First, I believe it is held that it is due to the visitation on the child of some disease of an eruptive character during the first few years of its life. I have made inquiry, but I have never been able to prove this. In many cases I have met with children with hypoplastic teeth who have had no disease such as we should associate with it, if this theory is correct, such as measles, scarlet fever, or anything of that sort. Then I believe it has been suggested that it is due to artificial feeding—that the child, instead of being suckled by the mother, has been brought up upon the bottle. Again, I have met with cases of hypoplasia where the child has been suckled up to the ninth or tenth month. I do hope that we shall be able by inquiry of our patients to get some further light as to whether this is really caused by some condition in the fœtal life of the child, or if it is brought about by some state of things after the child is born. In my own practice I have found the teeth of children in the better classes (girls of an anæmic character, and of a tuberculous tendency), to be extremely marked with a hypoplastic condition. I think we are very much indebted to Mr. Spokes for his valuable communication.

Mr. BETTS : I rather differ from the last speaker in my experience. I have been always rather careful to put the question to the parents with regard to hypoplasia in their children's teeth. I am only giving my impression, but I think a large proportion acknowledge to a rather severe attack of illness of some kind, but not always of an eruptive character. Once I had a most marked case in which the teeth came down to a great extent, and in that case I could elicit nothing at first, but at last the parent said that during the first six months of life the child could take no milk food at all, but only water and biscuit diet. Of course that argued some strange condition of health for the first six months of life.

Mr. SMITH TURNER : I did not know we were coming to this question in this form, otherwise I should have alluded to a few other points. I confined myself rather to Mr. Spokes' paper and the interesting speculations mentioned therein. But if we refer to the history of children, such as has been pointed out by our friend from Holland—more particularly to the history of children who have soothing syrups administered to them—I think it will be found that these things have considerable influence upon the teeth, but I do not know how far that has a bearing upon Mr. Spokes' paper.

Mr. SPOKES, in reply, said : The whole question of hypoplasia is much too big to be discussed in the few minutes at my disposal, and therefore I advisedly stated that I did not propose to cover the whole ground of etiology. Mr. Smith Turner asked me first of all about these ophthalmic children. I am not able to say what the children were in the hospital for. A large proportion, I know, were in for contagious ophthalmia, having been sent from the different parishes in the metropolitan area. I know that ophthalmic men are on the look out with regard to this question, and one surgeon asked me to show him common cases of ridged incisors and honeycombed molars, so that he might make observations upon them. We know that certain portions of the eye and the enamel are derived from the same developmental layer. Mr. Smith Turner's observation with regard to the sound dentine of defective bicuspids is a thing we all recognise. Nature attempts to make some provision for the preservation of a tooth when it has been deprived of its enamel. Dr. Grevers has suggested that possibly caries might be mistaken for hypoplasia, especially in temporary teeth. I have been very careful in this matter, and examined some of the cases under the magnifying glass. I do not think there is any doubt about being able to differentiate between a hypoplastic condition and an ordinary erosion caused by sugar food and acid secretions in the mouth ; but, indirectly, no doubt, by giving a child starch at an earlier age than it should be given, you set up a hypoplastic condition. Indirectly, all these different factors may bring about disturbances in nutrition, and thereby indirectly cause hypoplasia. Mr. Hartley discussed the question of artificial feeding. There are one or two other excellent remarks which he made which would lead to interesting discussion had we more time at disposal. Amongst the figures collected by the examiners under the Schools Committee we have a large number of cases of these children tabulated, which only want investigation by some one with a little time to go through them and add them up in the way I have done. There are 10,000 cases waiting for someone to investigate, if we can only find a gentleman to do the work.

A Defect in Platinum Pins.*

By W. BOOTH PEARSALL, F.R.C.S.I.

Twelve years ago I made an upper gold denture for an old lady who had been a patient of mine for some years. My patient had always treated me with the greatest confidence and good will, and I had always looked upon her as one of my best friends, so far as my professional skill was appreciated and used by her. The denture was designed to carry plate or flat backed incisor and canine teeth, together with some tube teeth, bicuspids and molars, to fill the places of those she had lost from time to time from gouty inflammation of the socket. The plate teeth were backed with gold, ground and fitted, I hope accurately and well. They were positioned in the mouth, and on removal invested in plaster and powdered pumice, the wax attachment removed, the solder duly placed in position, the case heated to redness and carefully soldered. The case was fitted in the mouth, and there was nothing remarkable about the appearance of the teeth.

All went well for about two weeks, when a central incisor "dropped off." The teeth were somewhat dark in colour, and not easy to get, about No. 17 of S.S. White's shades. I was so fortunate as to have some extra sets that exactly matched, and a new central incisor was replaced, in lieu of the one that "dropped off." Two days later my kind old friend returned with the central incisor I had replaced missing, together with the left lateral. They were replaced with new teeth from the duplicate sets, and the other teeth were apparently intact, and above any suspicion of unsoundness. In three days the patient returned with three teeth off, including the central and lateral which had been repaired. To make a long story short, I backed, fitted and replaced three sets of teeth before the "dropping off" ceased to trouble my patient and myself. To anyone who takes pains with such work and who has acquired practical skill and experience, such a series of mishaps must be very mortifying. Skill and time are spent without a satisfactory result to the dentist and with a rapid deterioration of the stock of confidence the patient has slowly acquired during visits to the practitioner spread over many years. I think I can claim a tolerably good knowledge of the practical details of most mechanical work as practised in dentures, but I confess I was completely at a loss to account for this series of mishaps. Close examination on the backs of the teeth showed a strange crystalline fracture of the platinum pins quite unlike the fibrous break we are so much accustomed to notice in soft platinum which has been deliberately broken across. I had obtained the teeth from a house I had been dealing with for years, and they were made by a manufacturer of world-wide reputation. Some inquiry elicited the fact that the amount of platinum in the market is limited in quantity, and it falls under the few products of nature that can be successfully "cornered" by rich and unscrupulous men. There has been, as you all know, a great increase in the demand of platinum on the part of electricians, and some dishonest person succeeded in placing on the market a stock of platinum wire alloyed with zinc which was not discovered till great practical inconvenience has been inflicted upon numbers of honest people. I do not for one moment imagine that any tooth manufacturer would deliberately use unreliable platinum in his goods, but it does happen that this brittle wire gets into our hands in the mineral teeth placed at our disposal for professional use. Although this defect has been indelibly impressed on my mind, I have not, strange to say, come in contact with any one who has had a similar experience. A few weeks ago our honorary secretary, Mr. Murray, sent me in the teeth I show you, and asked my opinion as to the cause of the disaster. Close examination showed the same crystalline fracture as in the teeth that had vexed me so much, which I also show you, and I find, on chatting over the matter, that Mr. Murray's experience is the same as mine, the teeth "dropped off" as spontaneously and fortuitously as if Sir Isaac Newton himself was waiting for a further example of the law of gravitation.

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* Read at the Annual Meeting of the Irish Branch held in Dublin, Dec. 4, 1896.

Since Mr. Murray's communication, this most annoying kind of accident and its cause has occupied my thoughts a good deal, and I have made a small collection of teeth in which similar "droppings off" have occurred. One specimen supplied by Mr. Murray is a vulcanite molar of English manufacture, and which has not been "fired" or soldered or subjected to any severe tensile strain.

Another is a continuous gum molar belonging to my own stock, the pin of which broke when I was firmly pushing it into the wax card to which it belonged in *summer* weather. The crystalline fracture is well marked. This tooth is of American manufacture. This annoying defect in the pins of teeth has caused me inconvenience and annoyance in four cases. One was that of the patient I mentioned at the beginning of this little paper, whose good will and confidence I am proud to think I still retain after an experience warranted to break a less highly tempered bond of union. The other was that of a patient with an upper denture for an edentulous jaw, the plate teeth of which "dropped off" without the least provocation. The teeth were duly replaced, but that patient considered I had been careless of her interests, and carried her good will and her fees to another practitioner. We had some correspondence on the matter, but her conviction remained unshaken that I had been dishonest in that I used teeth of unreliable and inferior manufacture for her case. I suppose now that I have drawn attention to this matter other practitioners will place their experiences on record, but except from my friend Mr. Murray, I have never heard how very mortifying such a technical defect can be to the practitioner. I am afraid I cannot offer you any remedy except that we should demand from the manufacturers of such unreliable goods a new tooth for an old one, and without any payment. Were I a manufacturer I would rigorously test all the wire used for pins, and if a sample of this adulterated platinum should come under notice, promptly return it on the dealer's hands. The accident to the pin of the continuous gum tooth and to the vulcanite molar shown by Mr. Murray, clearly show that it is *not* caused by *soldering*. I have been watching the soldering of plate teeth for years. I have soldered hundreds of them myself, but I have never met with such a defect before. Perhaps our members, to-night, will tell us how they have fared.

A Case of Cocaine Poisoning.

By F. MORDAUNT, L.D.S.Eng.

The following notes of a case of cocaine poisoning, which came under my care, may be of some little interest to the members of the profession.

A lady, aged 34, called with her husband at six o'clock on Saturday, August 29, and desired the extraction of the left lower second bicuspid. The tooth, on examination, proved to be abscessed. The patient wished to have gas administered. This was done; but by the time she had inhaled about two gallons she commenced to struggle, and drew the face-piece from her mouth, and loosened the prop. She said she would have it out without any anæsthetic; but when she had sat a little she became nervous, and said she would like something put on the gums. I suggested an injection of cocaine. Having prepared a 5 per cent. solution (two $\frac{1}{2}$-gr. tabloids, Wiley's, in a 20-minim syringe), I injected 5 minims in each side of the tooth, or even less, as the gums being very lax, due to the inflamed state, a great part of it escaped into the mouth, which the patient expectorated. After waiting two minutes, an attempt was made to remove the tooth; it fractured very low, the greater part of the root coming away. On examining the end I found it very much exostosed, and made a further attempt to remove the remainder, but was unsuccessful. About five minutes from the time of injection the patient began to feel faint. A little brandy and water was administered, and as she grew worse, more brandy was given. She now (about ten minutes after injection) complained of great pain in her abdomen and legs, and about 6.40 she said the pain was not so great, but that her legs were numb and beginning to feel cold, though there was still considerable pain. The patient had been swung back in the chair to a recumbent position as soon as it was found that the brandy had no effect on her. A surgeon was now called in. Whilst we were awaiting his arrival, the lady's husband asked that her regular medical attendant might be sent for. When the first surgeon arrived he prescribed sal-volatile; she had a drachm dose in two teaspoonfuls of water, but was no better; hot coffee was also administered at his direction. She was now in a semi-conscious condition, but kept saying that she was cold. At 7.20 her regular medical attendant arrived, and prescribed more sal-volatile and hot coffee. He stayed some time, but left at 8 o'clock to see an urgent case. Before this, the patient's clothes and corsets had been loosened, and she was covered with a blanket. The brandy, to which she had a great dislike, caused her to vomit very freely. The pulse was rapid, varying from 100 to 120. At 9 o'clock I noticed that her pulse was becoming more feeble, and administered more alcoholic stimulant, and this led to an improvement. At 9.20 her medical attendant returned, and found her as he had left her. More sal-volatile was given. Her mind had been wandering a good deal, which was ascribed to alcoholism, as a good deal had been taken. At 10 o'clock the doctor, who was continually feeling her pulse, noticed that she was almost pulseless; her shoulder was at once exposed, and an injection of ether given, and amyl nitrite vaporoles inhaled (3 minims). Three were given in succession. A physician was telephoned for. The amyl nitrite proved very effectual. Her temperature was taken; it was about normal, or a little below 98°. She still complained of cold, and said the numbness was all over her body, and occasional pains in the legs. At 11 o'clock the medical man thought she was sufficiently out of danger to be taken home, as the thought that she was giving great trouble seemed to upset her. An attempt was made to put her in a cab; but the confined space would not allow of a safe position, and as she feared she was going to vomit again she wished to be taken back to the surgery. At 11.30 the medical man left. At 1 o'clock, the pulse still improving, more regular, though high and fuller, 96. Valentine's beef essence was given every hour. At 2 o'clock, said she felt numbed but better, but complained of pain in her face due to extraction. The pulse continued steady at 96 till 3.30 a.m., when it began to rise to 120, but was not feeble. At a little after 10 o'clock (after the heart failure), she was put upon a couch, with her head very low, and wrapped in blankets, her mother and a lady friend staying with her during the night. At 7.30 I carried her into a cab, which took her home. I heard from her medical man that the cold and numbness left her on the Tuesday morning following, between 10 and 12 o'clock, though she was still in bed on the following Friday morning when I called to see her.

Sixth Report of the Schools' Committee on the Condition of the Teeth of Children.

Your Committee have to report that, despite the urgent appeal made to the members at the last Annual General Meeting for statistics with regard to the condition of the teeth of children, especially at certain ages, no Case-books have been returned for tabulation, except one series of 150 examinations from a member of the Committee. This will prove a valuable addition to the previous statistics, more especially as it comprises the results of the examination of children of a higher class and of a higher age than those forming the bulk of our statistics, thus greatly extending the range of the investigation.

The number of the examinations, however, is not sufficiently great to make a special report at present; suffice it to say that they bear out the fact mentioned in previous reports, that the children in the middle and higher class schools show a much higher percentage of decay of the teeth than the children of the Poor Law Schools.

Though the Committee have not been collectively active in the preparation of statistics, they have not been inactive in pressing forward the application of the practical lesson derivable from the results already obtained. The Committee have been looking forward with considerable anticipation to the report of the Departmental Committee of the Local Government Board, which has been enquiring into the condition of the Poor Law Schools, perhaps better known under its popular title of the "Barrack Schools" Committee. Knowing that the results of our investigation had been communicated to the Official Secretary of the Committee, with the offer to supply further details if required, and also that the evidence of a distinguished Local Government Board Inspector strongly advocated the extension of those school appointments which have produced such satisfactory results wherever they have been made, we were simply astonished to find the matter entirely ignored in the Departmental Committee's report.

Your Committee, in their third report at the Annual General Meeting at Birmingham, in 1893, pointed out that they also asked to be empowered to approach the Local Government Board on the question of the appointment of Dental Surgeons to schools under its authority, and other matters relating to, or arising out of, this collective investigation, so that the methods of appointments, work, and reports might be arranged on a uniform and sound basis. This proposal was not entertained, and an amendment was passed to the effect that the consideration of the matter should be postponed until a condensed report of the whole work of the Committee up to that date had been received and approved of by the Representative Board.

Your Committee respectfully urge the consideration and approval of their proposal, as the Local Government Board has already recognised largely the work of the medical profession, so far as sanitation and preventive medicine are concerned, and has had the question of dental hygiene and treatment of children's teeth under consideration. The appointments to which the Local Government Board's Inspector referred must receive the approval of the Local Government Board, and your Committee attach the highest importance in representing to the central and controlling authority the attitude and opinions of the British Dental Association as to the importance of such appointments and their proper regulation.

No action, however, was taken by the Association or Representative Board, but your Committee trust that the time has now arrived when some such action will be considered advisable. We know that there are many officials who are sympathisers with our objects, and who will be only too glad to have their attention publicly called to the urgency of this matter.

(Signed)
GEO. CUNNINGHAM.
W. B. PATERSON.
R. DENISON PEDLEY.
SIDNEY SPOKES.

Legal Intelligence.

Action for the Recovery of Fees.

FREDERICK ARTHUR BALLARD, a dentist, of Shooters' Hill Road, Blackheath, sued Mr. Alfred Wainman, of Craigerne Road, Blackheath, for £10 15s. Plaintiff said he extracted a number of teeth—nineteen—for Mrs. Wainman, and replaced them with false ones, undertaking to supply two sets for 20 guineas, £20 of which had been paid on account. The teeth were extracted in January, and in May Mrs. Wainman complained that the false teeth were too large, and wanted smaller ones. Alterations were made, and she said she would have a set for the lower jaw, which were supplied. His claim included charges for stopping teeth, some bottles of mouth wash, &c. The defence was that plaintiff originally undertook to supply two complete sets of teeth for both jaws for £21, and those supplied for the upper jaw never suited, Mrs. Wainman being constantly to and from the plaintiff's to have alterations made. The jury before whom the case was heard gave a verdict for the plaintiff for the full amount claimed. £1 15s. 6d. had been paid into court.—*Kentish Mercury.*

Pyrozone and Amalgam Fillings.

Writing to the *Dental Register*, Dr. Henman states that pyrozone, 3 per cent. (medicinal) used as a mouth wash is very deleterious to amalgam fillings. He has noticed fillings which have been doing good service for ten or fifteen years simply ruined by the chemical action of the pyrozone upon them.

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of this Society was held at the rooms of the Society, on Monday, January 11, Mr. R. H. WOODHOUSE (President) in the chair. There was a large attendance of members.

The minutes of the previous meeting having been read and confirmed :—

The following gentlemen were nominated for membership of the Society : Kenneth Weldon Goadby, L.D.S.Eng., 6, Holly Villas, Holly Road, Leytonstone ; Henry Wood, L.D.S.I., 196, Selhurst Road, South Norwood (*as Resident Members*). John Brodribb Parfitt, L.R.C.P. Lond., M.R.C.S., L.D.S.Eng., College Road, Reading (*as a Non-Resident Member*).

The LIBRARIAN reported that Mr. C. W. Glassington had presented to the Society his work on "Dental Materia Medica," and that the book which Mr. Hepburn presented to the Society in June last, containing autograph letters concerning the formation of the Society, had been rebound and suitably inscribed, and placed in a glass case in the Library.

The CURATOR reported that Mr. Robbins had presented to the Museum a bone piece for the lower jaw, with a partial set of natural teeth inserted. The specimen showed no sign of decay, and Mr. Robbins was able to state from his personal knowledge that it had been worn in the mouth for some time.

Mr. H. L. ALBERT read a communication on two cases of transplantation, with a third case of transplantation of a root, subsequently crowned. The first case was one in which a superior left lateral was transplanted over a twelvemonth ago, and from the time of insertion scarcely a moment's pain had been felt. The tooth was firmly fixed, and the girl was able to use it for the ordinary purposes of mastication. In the second case, the tooth, a superior right lateral, was firmly fixed at the time of the operation, but after the lapse of a few days signs of periosteal trouble developed, followed by suppuration and œdema of the lower eyelid. The tooth was very loose, but the patient was given tonics and attention paid to the general health, and in a few weeks the tooth began to get firmer, the periosteal troubles disappeared, and when seen twelve months after the operation the tooth was perfectly fixed. The third case was that of a girl for whom Mr. Albert was asked to transplant two superior central incisors, but having no suitable teeth at hand he cut off the roots of two that had been extracted some time, and inserted them with a view to subsequently crowning. One root came out a week after, but the other remained firm and was crowned four months afterwards.

Mr. Albert explained his method of precedure as follows: He first selected a tooth of suitable colour and shape, with a root slightly wider than the one to be removed. He had used teeth taken from living people, from dried skulls, and from the dissecting room, the only apparent essential being complete sterilisation. The tooth was scraped, and so denuded of its periosteum, and any deposits in the crown or neck removed. The apex was then cut off, and an antiseptic solution injected into the pulp chamber, after emptying it of its contents. The tooth was then immersed in an antiseptic until required. At the operation the patient's mouth was washed with carbolic or Condy's fluid, and gas administered. The tooth to be removed was grasped at its neck with clean forceps, and as much rotation as possible employed in its extraction, in order to avoid deflecting the alveolus. The socket was washed with antiseptics, and the tooth to be transplanted pushed forcibly into place, if necessary with a hammer. If enough of the root had been excised it would be found that the force used in inserting the tooth would have caused a white appearance of the gum in front from the pressure of emptying the blood-vessels, and he regarded that sign as a favourable prognostic indication. Care should be taken to see that the bite was clear. The one point Mr. Albert laid stress upon was the avoidance of ligatures and splints, which he believed were, even with the most stringent precautions, traps for bacteria and so inevitably leading to periosteal trouble.

Mr. BALDWIN asked if the two cases shown by Mr. Albert had been done with perfectly dead teeth. He had performed several cases of transplantation, but he had always endeavoured to get a perfectly fresh tooth.

Mr. F. J. BENNETT thought Mr. Albert's remarkable success might be due to the idea of having the root of the tooth larger than the cavity, and driving the tooth home with force, so that it was held firmly. If in that way splints or supports could be avoided, the mouth would be in a much more antiseptic condition, and hence there would be a greater chance of success.

Mr. NEWLAND PEDLEY thought the operation very unscientific. It was not transplantation but implantation. Even were the tooth made of wood it would stay in the mouth for a time when knocked in. After the force of impaction was over, the root became absorbed, calcification set in, and there was a spurious kind of ankylosis, but in nearly all cases that was only temporary.

Mr. ALBERT briefly replied.

Mr. E. BALDING, jun., mentioned a case of retarded eruption in a girl, who at the age of 11 years and 8 months still had all her milk teeth with the exception of the second left upper and lower molars, which were removed for caries, and the right upper central, which was shed consequent on the eruption of its permanent successor.

The four first permanent molars had also erupted, but there was no sign of the presence of any other permanent tooth in either jaw, unless a slight looseness of the right upper lateral, which had existed for over a year, was taken as such. The child was sixth in a family of seven, but there was no marked peculiarity in the teeth of any of the others, neither had there ever been in those of her parents. The child was otherwise a well-developed, healthy, and intelligent child, having been quite free from illness from birth until her eighth year, when she had measles, and a year later scarlet fever.

Mr. A. PEARCE GOULD read a paper on "Methods of Preventing Deformity after Removal of Portions of the Mandible." He first of all referred to the fact that the surgery of the maxilla differed materially from that of the mandible, for while removal of a large portion of the maxilla would leave only a trifling deformity, removal of a large portion of the mandible caused considerable external deformity, as well as great interference with its function in mastication. He stated that comparatively little effort had been made to deal with this question, and referred at some length to the attempts made by Liston and Fergusson in former times, and by Boyd and Stokes in recent times. He then related in detail three cases which had come under his care, and in which he had endeavoured to overcome the deformity resulting from removal of portions of the mandible. The first was a case of recurrent epithelioma in a man aged 52. He removed a considerable part of the left half of the mandible, and between the extremities of the remaining portion he inserted a stout silver wire. As long as the man remained in hospital the result was excellent, but during his stay in a convalescent home the wire became shifted and appeared through an aperture in the cheek, the patient removing the wire himself.

The second case was one of epithelioma of the gums on the right side. A piece of the mandible, about two and a-half inches in length, was removed, and between the extremities of the remaining portions a stout steel bar was inserted by means of screws turning in different directions. The skin and mucous membrane were then stitched over the rod. The result was excellent. The external deformity was but slight, and the mandible moved in one piece.

The third case was one of recurrent epithelioma, involving the floor of the mouth, the greater part of the tongue, as well as the neighbouring lymphatic glands. A portion of the mandible from canine to canine was removed, in addition to a large portion of the adjacent soft tissues. A steel bar with reverse screws at the end was inserted, but after a few days the right end became loose, and was replaced. A few days subsequent to this the left end became dislodged and was found to have slipped right into the left half of the mandible. The steel bar was accordingly removed.

In commenting upon his three cases, Mr. Gould remarked that what they wanted was something rigid yet easily adaptable, and he thought that the best method to adopt was a question which the future must decide.

Mr. STANLEY BOYD stated that in one case he had operated upon he simply put a knitting-needle between the extremities of the remaining portions of the mandible, fixing one end of the needle into the dental canal, and the other end into a hole drilled in the bone. The needle, however, became displaced. He thought, with Mr. Gould, that the material to be used must be easily adaptable, and he knew of nothing better than polished steel. It was strong, could be broken if desired, was non-absorbent, and in his experience did not rust. To prevent displacement it was needful for the extremities of the bar of the material used to have a shoulder. A point of importance was in his opinion to obtain speedy union, for as the amount of granulation tissue increased, so did the amount of contraction to be overcome.

Mr. STORER BENNETT alluded to the dangers of necrosis in such cases, and also to the fact that they had to guard not only against approximation but also rotation of the remaining portions of the mandible.

Mr. CUNNINGHAM, at some length, referred to the work of Claude Martin on the subject; while Messrs. Denison Pedley, Redman, H. Lloyd Williams, Colyer, Newland Pedley and Baldwin also took part in the discussion.

Mr. GOULD briefly replied, and the meeting adjourned.

A Japanese Tooth Paste.

The following circular regarding a proprietary tooth paste has, according to the *Pharmaceutical Era*, just been issued by a native firm in Japan:—" In the East there was no good sanitary tooth-paste that was sure to cure and safe to use, so our company resolved to prepare a good-natured paste and succeeded. The efficiencies of this paste are as follows: Firstly, to strengthen and preserve the nature of the tooth; secondly, to tight the tooth with thingams; thirdly, to prevent a hemonhage arisen by frictrir; fourthly, to take away the offensive smell of the mouth; fifthly, to difend the putrefaction of tooth, and so prevent the carious one. Anyone who uses this paste will certainly discover that it is of avery wordrful and valuable nature by this practice. To use this paste it is necessary to vinse the mouth with walir aftr sabling the tooth carefully by the tooth brash."

Hospital Report and Case in Practice.

Death from Swallowing Artificial Teeth.

We are indebted to Mr. Arthur Woodward, House Physician of St. Bartholomew's Hospital, for the notes of this case.

Amy Lange, age 24, married, was admitted to St. Bartholomew's Hospital under the care of Dr. Church, on December 22, 1896, about 11 p.m., suffering from hæmatemesis. On admission she was in a collapsed and almost moribund condition. Her friends stated she had vomited about two pints of blood shortly before her removal to the hospital.

While in the hospital she continued to vomit blood at intervals (three pints in all), and died at 3 p.m. on December 23. No treatment was of any avail.

Her previous history—for a great deal of which I am indebted to Dr. Campbell Boyd, who saw her in the first instance—is as follows:—

Eight months ago, patient swallowed a dental plate with one tooth attached. This occurred in a fainting fit, while patient was out shopping. She was then far advanced in pregnancy. When seen shortly after the accident by Dr. Boyd, she was suffering considerable pain at the lower end of the sternum. A soft rubber tube was passed, and felt to catch near the cardiac orifice of the stomach; but on gentle pressure it passed on, and patient felt relieved. The plate was supposed to have been dislodged, and pushed into the stomach. After this she suffered very little inconvenience, but had feelings of suffocation when swallowing a large piece of meat, which was relieved on drinking water; and latterly by cutting up food into small pieces was hardly troubled at all; at times had some dyspeptic pain during and after meals.

She passed well through her confinement, afterwards went to West London Hospital, and had a skiagraph taken of upper part of abdomen, with negative result.

The next we hear of her is that she was at St. Thomas's Hospital for an operation, but discharged herself the evening before the operation was to have been performed. She was then lost sight of until coming to St. Bartholomew's.

Below are the notes from the *post-mortem* register:—

"*External appearances.*—Very blanched.

"*Mouth.*—Left upper central incisor missing.

"*Chest.*—Œsophagus, about 4 inches below the cricoid, a tooth-plate was found. It held a single tooth by a central piece, which was connected with two lateral wings, the distance between the terminations of these wings being 1¾ inches. The plate lay in the œsophagus, with its upper surface posterior. The tooth was embedded in a hole it had ulcerated on the anterior wall of the œsophagus on the right side. The tip of the left wing had buried itself in the left lateral wall of the œsophagus; and ulceration here had reached the thoracic aorta, making a small opening with ragged edge, just admitting a probe. The other wing, at the top of which was a piece of wire curled into three-quarters of a circle, lay down the œsophagus, close to the anterior wall. The plate offered little obstruction. The œsophagus was not dilated above, but was stretched laterally by plate. Blood clot which covered the plate came away without difficulty—evidently recent.

"*Lungs.*—Pleural adhesions on both sides. No evidence of obstruction to bronchi."

Abstracts and Translations.

The Protection of the Oral Cavity against Pathogenic Bacteria.

In an excellent article contributed to a recent issue of the *Dental Cosmos*, Dr. Hugenschmidt of Paris gives the results of some experiments he has made into the obscure and extensive problem of the defence of the mouth against pathogenic micro-organisms. The question as to whether the saliva possesses any bactericidal action is fully entered into, and from the numerous experiments recorded it would appear very problematical whether saliva possesses any such action. Indeed he states, "We have never been able to observe it [bactericidal action] in an evident manner in any of the microbes except the torula and staphylococcus aureus." The saliva for the experiments was collected on rising in the morning in sterilised tubes and divided into two parts, one portion being filtered through ordinary filter paper, the other through the Chamberland filter. As the action of the saliva however filtered practically the same action, the majority of the experiments were undertaken with saliva filtered with the Chamberland filter.

The saliva, Hugenschmidt considers, has an important mechanical action, for it dilutes the bacteria, glueing them together so that they are swallowed and in the stomach destroyed by the action of the gastric juice. He attaches some importance to the mucous secretions, remarking that although he has not had time to carry on experiments with regard to it, the researches of Wartz and Lermoyez into the bactericidal part attributed to the nasal mucus should be remembered; these investigators having shown that "after three hours' contact with the nasal mucus at 38° the spores of the bacillus anthracis are killed, while the staphylococcus aureus, the streptocococcus, and the coli bacillus are greatly attenuated."

The view that the potassium sulpho-cyanide plays the part of an antiseptic agent in the saliva is certainly not supported by the experiments recorded, indeed, the inference to be drawn is that it possesses neither antiseptic nor bactericidal properties.

The part played by phagocytosis in the protection of the oral cavity is dwelt on at some length, and after tracing the various sources from which the leucocytes are derived he refers to the interesting point of their chemiotactile sensibility, and shows that the non-filtered human saliva possesses positive chemiotactile properties. For this latter purpose the following experiment was made :—Human saliva ejected in the morning was left for some time in an experiment glass. The upper part of the liquid which had become clear was then taken and introduced in small quantities into capillary tubes, which were each closed at one extremity. The tubes were then introduced into the peritoneal cavity of a guinea-pig, and left for eight hours, after which they were removed, and on being examined leucocytes were found to have formed a dense plug two millimetres long. In another experiment in which the saliva was kept for twenty-four hours in an oven at 37°C., and in which the number of microbes had greatly increased, the plug formed by the leucocytes in the capillary tube was visibly larger, thus showing that the attraction exerted by the leucocytes is in relation with the intensity of the culture, and consequently with the quantity of microbian products present in the liquid. From these experiments one "can deduce that when there exists in the interior of an alveolus, after a dental extraction, or in any other point of the buccal parietes, a cavity where the saliva can remain and become the medium of an abundant culture, this saliva presents chemiotactile properties in relation with the quantity of microbes which have developed in it. The leucocytes of the neighbourhood will be energetically attracted toward the diseased point, and will, in a very marked way, accomplish their protective action." Experiments in which the saliva of a guinea-pig was introduced, the same animal's periotoneal cavity produced the same results as human saliva, thus demonstrating the fact that the saliva of one animal attracts the leucocytes of the same animal. Having thus shown that saliva possesses positive chemiotactile properties, experiments were made with the view of ascertaining whether the phagocytes of an animal are capable of englobing and digesting the microbes which are cultivated in the salivary secretions. In the first experiment, human saliva which had been left quiet so as to clear it, was mixed with leucocytes from guinea-pigs. The mixture was then placed in an oven at 37°C. for an hour; the liquid was then placed on slides, fixed, and coloured by Ehrlich's process. Microscopical examination of the slides showed that the leucocytes had taken up the microbes with great avidity. Similar experiments with the saliva of a guinea-pig and leucocytes from the periotoneal cavity of the same animal demonstrated similar facts.

In another experiment recorded, the activity of the destruction of the microbes by the phagocytes is clearly demonstrated. "A trace of saliva was taken from a guinea-pig, and from this preparation were made and stained, some with methyl blue and others by the Gram method. This done, a wound was made in the gum and in the median line of the mandible, the mucous membrane being removed and the bone somewhat scraped. Twenty-four hours later the wound presented a white coating, constituted by leucocytes, almost all polynuclear, some mononuclear. These leucocytes by proper staining were found to contain an abundance of microbes similar in form and character of stain to those seen in the preparation of the saliva. A considerable number of the englobed microbes were less energetically stained than those from the surrounding liquid, thus demonstrating their degeneration. In the experiments above recorded the saliva was used unfiltered, and therefore mixed with microbes. To test whether filtered saliva possessed this chemiotactile property the following experiment was carried out. Saliva filtered through a Chamberland filter was taken and introduced into six capillary tubes, each of which had one extremity closed. Into another six tubes cholera culture was introduced, and into another six physiological serum. These three bunches, separately attached, were introduced into the periotoneal cavity of a guinea-pig, and left for ten hours. Examination of them at the end of that period showed dense plugs of leucocytes in the tubes containing cholera culture, but few leucocytes in the tubes containing filtered saliva, and no trace of any in the tubes containing physiological serum.

It would thus seem that the positive chemiotactile properties of saliva depend upon the presence of micro-organisms. But phagocytosis is probably not the only means by which the oral cavity is rendered immune to pathogenic organisms, for it is more than possible that the epithelial cells and also the vital antagonism of the microbes lend their aid. The epithelial cells of the oral cavity are constantly being replaced, this desquamation being especially active during the act of mastication. Now although the epithelial cells do not possess phagocytic properties, nevertheless they are lined on the surface, and also to a certain extent penetrated, by scattered bacteria; the result is that these are dislodged by the saliva, and so carried away to the stomach to be destroyed.

There is, too, a strong probability "that the attenuation of the virulence of a microbe which exists in very restricted quantity in the mouth may be due, not to the saliva itself, but to the micro-organisms of all kinds which are present in the saliva." In the vagina this has been shown by Menge to be the case, and there seems every reason to suspect that the vital antagonism of the microbes is an important factor in the auto-aseptisation of the mouth.

To sum up, Hugenschmidt's observations tend to the following conclusions:—

(1) Filtered saliva has but practically no bactericidal properties.

(2) That saliva, mechanically, by diluting the bacteria and glueing them together, leads to a destruction of them by the gastric juice.

(3) The buccal mucus probably possesses bactericidal properties.

(4) That potassium sulpho-cyanide does not give to saliva any antiseptic properties.

(5) That phagocytosis play an important part in the destruction of the microbes.

(6) That the saliva possesses very definite positive chemiotactile properties.

(7) That the epithelial cells and the vital antagonism of the microbes assist in the auto-aseptisation of the oral cavity.

A Case of Swallowing Artificial Teeth.

By J. W. MILLER, M.D.,
CONSULTING PHYSICIAN, DUNDEE ROYAL INFIRMARY,
AND
PROFESSOR WAYMOUTH REID,
UNIVERSITY COLLEGE, DUNDEE.

On April 19 last I was summoned to visit J. M., aged 19, who, while eating his dinner, had, it was said, swallowed his artificial teeth. His statement was that the teeth, which fitted loosely, stuck in a piece of bread, and, although he made an attempt to catch them at back of mouth, slipped from his fingers and passed down his throat. He ate what remained of his dinner, so the teeth had not stuck in the œsophagus. He described the denture as a vulcanite plate bearing six teeth (four incisors), a space on one side for one natural tooth, on the other side for two, and beyond these spaces an artificial tooth at each end. He said that he thought there was a metal hook at one or both ends. The statement was so extraordinary that at first I refused to believe it, but ultimately I became satisfied, from the state of alarm which he manifested and from his graphic description of how the accident occurred, that he was speaking the truth. Accepting as correct his description of the foreign body, a more awkard one for passage along the bowel could scarcely be conceived, if even it got past the pylorus, which I considered highly improbable. Under the circumstances it was my opinion that the proper treatment was an exploratory laparotomy, and if the denture was found in the stomach, to remove it. I considered that such an operation would be considerably more dangerous if postponed till the foreign body by irritation set up symptoms.

It occurred to me that the Röntgen rays might possibly afford information in corroboration of the patient's statement, so Professor Waymouth Reid, having kindly agreed to make the experiment, the lad was taken to University College and the negative, which was obtained after an hour and a half's exposure, showed a crescentic figure for which it was difficult to account except on the supposition that it was caused by the teeth. There were, however, difficulties: but Professor Reid has been good enough to consent to supply this part of the report.

The patient having had it firmly impressed upon him that the proposed operation was a dangerous one, and he maintaining the truth of his statements, he was conveyed to the infirmary next day. A probang having been passed into the stomach and nothing found in the œsophagus, Dr. Macewan opened the abdomen by a mesial incision in the epigastrium, and carefully palpated the stomach, but could not detect the presence of a foreign body. Seeing that the denture had evidently passed through the pylorus, it was considered probable that it would complete its transit through the alimentary canal. No further exploration was therefore made.

The patient made an uninterrupted recovery from the operation. He was fed on dry food. On the twelfth day after the accident, the bowels not having been evacuated in the interval, an enema was given, and the foreign body was, with considerable pain, passed *per anum*. The denture when brought to view differed in one important detail from the patient's description—there being no hook or point by which it could become entangled. Held in the hand it feels quite smooth and round, almost as if specially designed for safe passage along the intestine, instead of for firm fixture in the mouth. The outside measurement from side to side is $1\frac{11}{16}$ inch.

Photographic Notes on the Above Case.

An 18 by 14-inch plate was exposed beneath the patient supine upon a table. The Crookes' tube was placed about 18 inches from the plate and immediately over the fundus of the stomach on the left of the middle line. On development of the plate, after one and a half hour's exposure, the vertebral bodies from eighth dorsal to third lumbar, and the ribs from sixth to twelfth, were distinct.

Over the shadow cast by the vertebral end of the shaft of the seventh right rib and in the sixth and seventh intercostal space was a dark (on negative) crescentic line not to be accounted for by any anatomical structure, not a "pressure picture" of a buckle or button (since the back was naked), not accounted for by inequalities in the paper covering the plate, not visible on another plate of the same batch (used for photographing a bullet in the brain, in which case a living head had pressed the plate for one and a-half hour) and certainly suggestive of the curvature of a suction plate. Higher up, and still further to the right, a fainter impression of the same character, but smaller, was also visible. The opinion formed at the time was that this line was in some way caused by a foreign body which had travelled during the long exposure (the patient himself, as evidenced by the sharpness of the shadows of his vertebræ and ribs, had lain remarkably still). With the Crookes' tube 18 inches from the plate and over the fundus of the stomach on the left, a body towards the pyloric end of that organ, and, of course, at a greater distance from the plate than the vertebral ends of the rib shafts, might easily have made itself evident by a shadow effect, as high up as the crescentic lines in the negative. The artificial teeth, when recovered, were not found to be fluorescent.

The negative obtained is too thin to reproduce by photo-mechanical printing without unjustifiable retouching.—*British Medical Journal.*

Dental Surgery and Blood Poisoning.

An inquest was held on Dec. 11, at Harden before Mr. Barstow, district coroner, touching the death of Mary Ellen Steel, aged 22 years. On Nov. 4 deceased had seven stumps and two teeth extracted under gas by Mr. Wright Sunderland. Gangrenous inflammation set in. Dr. Angus, of Bingley, and Dr. Rabagliati, of Bradford, were consulted, but their efforts proved unavailing and deceased died from blood poisoning. At the inquest Mr. Sunderland and the relatives of deceased were legally represented. On the day following the operation Mr. Steel, the father, noticed two small cuts, one on the left side of the gum and the other on the inside of the lip. We gather from the tenour of the examination of the witnesses it was suggested that the wounds were caused by the instruments, and, further, that septic infection might have been caused by unclean instruments. In answer to the former Mr. Sunderland stated that it was impossible for the cut on the lip to have been made with forceps, and to the latter that the instruments were bathed in perchloride of mercury before using them. Considering the extent of the operation it is not surprising that a wound might be inflicted on the gum, and, in fact, it might be expected as a necessary sequel. A small injury to the lip might very well be caused by the patient herself before she fully recovered from the anæsthetic. Dr. Angus was of opinion that infection did not take place on Nov. 4, the date of the extraction, and that decomposing food in the mouth and the general condition of health were factors to be considered. With this we fully accord, and, indeed, it is surprising that septic and infective processes do not more frequently ensue on dental operations.—*The Lancet.*

Reviews and Notices of Books.

DENTAL MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS. By Charles W. Glassington, M.R.C.S., L.D.S.Edin. London: J. and A. Churchill, 1896.

The opening paragraph of the preface states that "for some years past there has been a need felt for a work on Dental Materia Medica, which would be at once concise, and at the some time supply all the information required in the study and practice of dental surgery." This is undoubtedly true; but whilst we sincerely welcome this little book as a distinct advance on what we already possess, it cannot honestly be said that the subject has been compassed with sufficient liberality of treatment and care of compilation as to merit the verdict of a "need supplied." The book is nicely got up, well printed, and exhibits a considerable amount of care in its preparation for the press; in fact the hand of Dr. Murrell—who is not a novice in the "making of books"—is plainly discernible in many directions, and no one will grudge him the full acknowledgment of the author in his preface.

The classification of drugs into inorganic substances, synthetical compounds, and organic substances is of doubtful utility in a little book of reference of this kind, and the somewhat meagre index does not help matters. The dental therapeutics which one naturally turns to as of paramount interest, must of necessity reflect, to a large extent, the practice of one man, but we cannot help thinking that the author would have been wiser had he been a little more catholic in his treatment. But whilst saying this we are pleased to notice that several points are treated with great thoroughness; and as an instance we would mention the use of arsenious acid for devitalising pulps, though the advocacy of the routine practice of using cocaine in *all* cases of exposure is not insisted on as it should be. Few practitioners would endorse the use of carbolic lotion (1 in 40) for the treatment of dead teeth and as an anodyne in excavating sensitive dentine—except we have in our midst homœopathists of the "extreme diluent" type; and although the author tells us (p. 128) carbolic acid can be "*safely prescribed*" as an antiseptic mouth wash in the strength of 1 in 240, we suspect that he might with equal truth have attributed *safety* to the septic organisms as well as to the careful practitioner. Another instance of the same caution is the advocacy of the use of a solution of hydronaphthol 1 in 1000 to (*sic*) pulpless teeth.

Mr. Glassington is evidently a firm believer in saving pulps which are exposed, and gives several hints as to the avoidance of injury to the odontoblast layer, and the cultivation of a protecting cap of secondary dentine; but we very much doubt whether the procedure recommended (p. 145) of applying "a paste of iodoform to an exposed and irritated pulp" and covering with a gutta-percha filling, is likely to lead to the pathological changes so earnestly desired by the faithful. The use of chloride of zinc (solid stick) and crystals of cocaine in a cavity heated to perfect dryness, and kept so by rubber dam, for obtunding sensitive dentine, is certainly novel; the rate of deliquescence of the former under the conditions named can scarcely be very rapid, while the latter, we should imagine, would remain unchanged for a very lengthy period. The author has certainly been misinformed when he states that sulphate of copper is an "ingredient" of the copper amalgams; and few will agree with the statement that "such fillings may shrink more than some silver alloys and have less edge strength." We hope no student who reads on page 71 that nitrate of silver may be used as a mouth wash, in the strength of 30 grains to the ounce, will be tempted to try the experiment —especially if he is endeavouring to build up a private practice; the result might be disastrous, even in the most leathery of mouths. Neither should we advise anyone to apply liquor sodii ethylatis "with a pointed glass rod for two or three days" for the removal of small vascular growths in the mouth, as advocated on p. 227. The treatment would be tedious both to patient and dentist, and we more than suspect that the advice given involves some little confusion of statement.

We think that Mr. Glassington might have included several more drugs with distinct advantage, such as pyrozone, sulphur, trichloracetic acid, spirit of chloroform, oil of peppermint, and many others in fairly common use. The feature which will be regretfully noted by the student is the paucity of prescriptions and practical formulæ; a few more tooth-powders and mouth washes, for instance, would have been very acceptable. Another practical point which has been overlooked is the solubility of drugs; in fact there are few things which are more apt to lead the dental student astray in prescribing than an ignorance of how much of a particular agent can be dispensed in an ounce of water, spirit, or other medium.

We feel quite sure that a new edition will find us on much better terms with a book which, with a little of the wisdom that comes with experience—and may we add with criticism?—will be of distinct help to the dental student, and a welcome addition to a special literature which is by no means as rich as it ought to be.

New Inventions, &c.

Compound Phenacetin "Tabloids."

MESSRS. BURROUGHS, WELLCOME & Co. have forwarded us samples of "phenacetin tabloids" of the following formula:—Caffeinæ, gr. 1; Phenacetin, gr. 4. The combination of phenacetin with so useful a cardiac stimulant as caffeine will no doubt prove therapeutically useful in dental surgery especially as an analgesic.

Appointments.

T. JACKSON, junr., L.D.S.Edin., to be Dental Surgeon to the Burnley Union Workhouse and Infirmary.

RUPERT H. CUMINE, L.D.S.I., to be Dental Surgeon to the St. George's-in-the-East Schools, Upton Park, Essex.

Miscellanea.

The List of Members.

The 1897 List of Members will be issued with the February number, and will include the names of officers of the Metropolitan Branch to be elected at the Annual General Meeting in January. The Secretary of the Association will be pleased to receive as soon as possible any additions or alterations members desire. Communications to be addressed to 40, Leicester Square, W.C.

The Odontoblasts.

Under this name a small club has been formed composed of the acting staff and anæsthetists of the Dental Hospital of Ireland. The club is formed for the encouragement of clinical and experimental research bearing on dental science and anæsthetics, and is to meet the last Monday of every month from October to May (both inclusive). The club is also to partake somewhat of a social character, for we notice in the rules that prior to each meeting the members of the club will dine together. We wish every success to "The Odontoblasts," whose better acquaintance no doubt many of us will make during the next Annual Meeting.

An Action against a Dentist.

An action has recently been decided at Brighton in which a patient sued a dentist for £4, the sum paid for artificial teeth which the plaintiff complained she was unable to use, as they interfered with her articulation and were useless for mastication. At the suggestion of the judge another dentist, unknown to either side, was called, and after examining the teeth stated that in his opinion they were properly made and fitted the plaintiff. Judgment was accordingly given for the defendant, with costs. The action of this judge is to be commended, and we only wish that others under similar circumstances would adopt the same course, and not presume, as has been the case in one or two recent actions, to be capable of judging whether artificial plates do or do not fit.

Dental Hospital of London, Leicester Square, W.C.

This charity is in urgent need of help. The Committee bought some houses for their new site, relying upon the rents the houses would produce for a few years to accumulate money for building. Recently the houses have been condemned and are being demolished, consequently the authorities are compelled to begin building the new hospital. Such a proceeding must necessarily involve the charity in considerable indebtedness, towards defraying which help is most seriously asked. Subscriptions and donations will be gratefully acknowledged by the Secretary, Mr. J. Francis Pink, at the hospital.

Death from Chloroform given for a Dental Operation.

A death from chloroform given for a dental operation occurred on December 17, at the General Hospital, Nottingham. We are indebted to Dr. Buckley for the following notes of the case:—

On the morning of December 17 the deceased patient saw the dentist of this hospital because of toothache. She had had two teeth removed about a fortnight before without chloroform and without any ill-effect. The dentist then advised her to have several teeth out, and the patient asked to have chloroform.

She had some milk about 12 o'clock, no dinner, and at 4 o'clock on the same day (December 17) chloroform was administered in the prone position after the heart and lungs had been examined and found healthy.

The chloroform was given on a towel. She went under without any struggling or any signs of failure either of pulse or respiration. About ʒii. had been given, two teeth extracted, and the forceps were put on the third tooth when the patient suddenly stopped breathing, and the pulse ceased at the same time.

Liq. strych. ♏x. was at once given hypodermically, the patient's head lowered and artificial respiration performed; nitrite of amyl, oxygen, and the battery were given without any signs of returning vitality.

Post-mortem next day. *Brain* very anæmic. *Lungs*, *liver*, and *spleen* healthy. *Heart*—weight, 9 oz.; left side contracted and empty; right side full of blood; muscle looked healthy; no evidences of hypertrophy or dilatation. *Kidneys* were the seat of subacute nephritis.

Syphilitic Infection.

An instructive series of cases of syphilis, traceable to infection from a congenitally syphilitic baby, was brought before a recent meeting of the Sheffield Medico-Chirurgical Society by Dr. Arthur Hall. The baby, which had ulcers round the mouth and buttocks, infected the brother, the primary sore being situated in the left cheek. A little girl aged 3 was also infected. In the latter case the primary sore appeared on the lip, the infection being in all probability conveyed by an artificial teat. This child in turn infected its mother, the primary sore being situated on the left nipple.

Death from Dentition.

The *Cambridge Chronicle* for December 24 contains a notice of an inquest held respecting the death of a child, aged 15 months, due, according to the evidence of the medical man, to dentition. The facts of the case are briefly as follows. The mother noticed that the child became ill on the previous Saturday, and as the symptoms continued to become worse she went for the doctor on the Tuesday, but the child died before she returned. The medical man in his evidence stated the *post-mortem* examination showed that the child had been well nourished, and that all the organs were particularly healthy. Teething had set up irritation of the gums and caused convulsions, from which the child died. He stated that medical assistance should have been called in earlier, for if the gums had been lanced in the afternoon the child's life might probably have been saved.

Death during a Dental Operation.

Death during the performance of a dental operation, although not unknown, is nevertheless extremely rare. Such an event has recently occurred at Swaffham, and is recorded in *The Eastern Daily Press* (January 2). The patient was 18, and had been ailing for some time. He went to a dentist named Wallace to have a tooth stopped, and shortly after the operation was commenced he was seized with a violent fit of coughing, which led to fatal syncope. A medical man was called in and everything possible done to save the patient's life, with no avail.

A Cement for Microscopical Work.

A useful cement for fixing minute objects to thin glass covers, prior to mounting them in Canada balsam, is suggested by A. C. Cole in his book entitled, "The Methods of Microscopical Research." The cement is made by dissolving gum arabic (2 grains) in distilled water (1 ounce), then adding glacial acetic acid (3 minims) and the least possible trace of sugar. Filter carefully through filter paper, and repeat the operation in a few weeks. This cement has been found to stand the test of use for many years, being quite unaffected by the balsam and also invisible, even under the highest powers.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

The Report of the Proceedings of the General Medical Council.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—According to your report of the last proceedings of the General Medical Council, there appears to have been some misunderstanding in reference to the Second course of Anatomical Lectures required by the Edinburgh Royal College of Surgeons, in its Regulations for Dental Students. It may therefore be explained that what is there specified as "Demonstrations," consists of a separate course of lectures on the dissected subject, as distinguished from those devoted to the progressive description of the osseous, muscular, nervous, vascular and other systems given in the "Lectures" of the first year. The two courses are entirely distinct, are conducted at different hours, and may be taken out independently of each other or of practical anatomy, as will be found on referring to the "Calendar of the Royal Colleges of Edinburgh."

I am,
Yours very truly,
J. SMITH, M.D. F.R.C.S Ed.

11, *Wemyss Place*,
Edinburgh.
December, 1896.

Defective Platinum Pins.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Mr. Pearsall's paper on "A Defect in Platinum Pins" will no doubt awaken painful recollections of similar catastrophes in the practices of most of us. As a practical outcome of the paper, and the discussion which followed it, the writer, Dr. Stack and myself, were appointed a committee to investigate the cause of these accidents. We propose to obtain micro-photographs of the fractured ends of the pins, and to compare these with similar photographs of sound platinum pins, broken for the purpose. We will then subject the pins to a minute analysis, in order to detect the presence of any alloy in the metal.

We shall feel much obliged to any readers of the JOURNAL who will assist our investigations by sending to me any specimens which they may have kept, of teeth which have failed in this respect, with any particulars which might be of value.

I am, dear sir,
Faithfully yours,
GEO. M. P. MURRAY.

10, *Hume Street*, *Dublin*.
January 2, 1897.

Books Received.

BACTERIA OF THE SPUTA AND CRYPTOGAMIC FLORA OF THE MOUTH, by Filandro Vicentini ; translated by Rev. E. J. Stutter and Professor E. Saieghi, from the "Alta della R. Accademia Medico-Chirurgica" of Naples. *London :* Baillière, Tindall & Cox, 20 and 21, King William Street, Strand, 1897.

The Birmingham Medical Review, The Dental Record, The Dominion Dental Journal, Items of Interest, Welch's Monthly, Le Progrès Dentaire, Deutsche Monatschrift für Zahnheilkunde, The Dental Review, The Dental Register, The Dental Digest, Pediatrics, The Medical Press and Circular, Revue Odontologique, The International Dental Journal, Guy's Hospital Gazette, The Cosmos, The Chemist and Druggist, The Pharmaceutical Journal, The British Journal of Dental Science, The Ohio Dental Journal.

Letters and other Communications received from :—

J. Smith ; Messrs. Burroughs, Wellcome & Co. ; Rupert H. Cumine ; Thomas Jackson, jun. ; W. A. Rhodes ; R. Ackland ; T. Lees ; Dr. J. C. Buckley ; G. P. Murray ; F. V. Richardson ; W. Booth Pearsall; I. Renshaw.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 2. FEBRUARY 15, 1897. Vol. XVIII.

The Reports on the Various Qualifying Examinations in Dental Surgery.

In 1889 the Executive of the Association approached the General Medical Council with the view of obtaining the appointment of an Inspector to visit the various qualifying Examinations in Dentistry. This request, which has from time to time been repeated, resulted about eighteen months ago in the appointment of Mr. Charles Tomes to that important office.

Since his election Mr. Tomes has visited the four Examinations held in the United Kingdom, and has drawn up and submitted his Reports to the Council. Those members of the Association who may have read these Reports, together with "the remarks" made upon them by the Dental Education and Examination Committee, must have felt some justifiable pride in having a representative able and willing, without remuneration, to undertake such a duty, and to accomplish it with so much distinction to himself and honour to the Association, for we may assume that there is some credit reflected upon the body which initiated the appointment so ably filled by one of its members ; and we trust that the contemplation of the great benefit which must accrue to our professional education will, in a measure, compensate him for his self-denial in undertaking the duty, and for the unflinching courage with which he has met and overcome the disagreeable difficulties associated with it.

The Reports themselves are full of instructive reading for all those who care to know something of the inner working of our examinations, and show those who may have winced under the sting of failure that the element of chance is as far as possible eliminated from the ordeal, and that both the system and the examiners are characterised by a fairness which, in some respects, seems to lean rather far towards leniency. Although the Reports are throughout as impartial as human nature can make them, the Inspector does not hesitate to point out both the strong and weak points of the various methods of examination brought under his observation, and where criticism is necessary it is always supported by sound reasoning—yet both the Inspector and his Report meet with some depreciation from one of the examining bodies. It would, perhaps, be unbecoming of us to take either side in such a dispute, but it appears rather paltry to object to Mr. Tomes because he has brought to bear on his task the experience gained when a member of the Dental Examining Board of the Royal College of Surgeons, England. To an unprejudiced mind the standard of that body is not altogether a bad one by which to judge others, so that if Mr. Tomes had unconsciously fallen into the mental attitude attributed to him, it would be hard to find in this an argument against his criticism or in favour of the offended licensing body.

While speaking generally of all the examinations in terms of satisfaction, he has in several cases suggested improvements which have received the approval of the Education and Examination Committee of the General Medical Council, the most important of which the colleges have promised to adopt.

Before dealing with the Reports it might be well to emphasise the following quotation which appears in the remarks of the Inspector with regard to the Examination of the Royal College of Surgeons, England: "There appears to be tangible evidence that the average candidate prepares himself with a strict regard to the requirements of the Examination and no more, and that within reasonable limits increased requirements do not lead to wholesale rejections, but are very speedily followed by an improved standard of capacity in the candidates."

Every teacher and examiner may well take these words to heart, for it is true in nine cases out of ten that the candidate for a diploma has rather the fear of the ordeal before his eyes and the desire to circumvent the examiners and negotiate the examination than to become master of his calling, or to have a good theoretical and practical knowledge of his profession. This, of course, is to be discouraged, because it so often leads to disastrous results. The man who has worked honestly and consistently to master his profession in its many details is more likely to succeed at an examination than he who tries to find out what questions each Examiner is in the habit of asking, or in listening to those teachers who endeavour to act as prophets or tipsters.

The suggestions as to the College of Surgeons of

England Examination had already been adopted by its Council before the Report was presented, and was in contemplation before Mr. Tomes ceased to be an Examiner.

How far the changes will answer the expectation of their authors remains to be seen, and their operation will be watched with extreme interest by all who have dental education at heart; but for the present they will, at all events, considerably extend the dental curriculum, and do what is perhaps of still greater importance—secure the examination of the candidates in all the subjects which they are called upon to study.

We are also of opinion that the manner in which the College of Surgeons of England respected the integrity of its dental diploma, after the Dentists Bill became law, and adhered to the original conditions which were established when the optional diploma was founded, has in a great measure helped to make its diploma the most valued and most eagerly sought after of any dental qualification.

The praise bestowed upon the examination of the Royal College of Surgeons, Edinburgh, and the general commendation of that of the Faculty of Physicians and Surgeons, Glasgow, are well deserved, but the Inspector, on the other hand, has not hesitated to criticise when he has felt there were weaknesses. The criticism on the method of marking, if a little severe, appears to be just. The system by which a candidate is marked at each part of his examination on its own merits, the examiner not knowing how the candidate has fared elsewhere, and the result depending upon the grand aggregate, certainly appears to be the best method of marking, for it is not desirable that an examiner should know, when marking, that upon his verdict depends the pass or failure of a candidate, unless the candidate be so hopelessly bad that his progress through the examination should be arrested.

While the authorities at Glasgow promise to introduce a practical examination in Dental Mechanics, those at Edinburgh do not appear disposed to either include Dental Histology or to alter their method of examining in Mechanical Dentistry; and they are also of opinion that "the risk" of cases being "got up," if suitable cases for filling are selected before examination, is a probable one. If the candidate be marked for his preparation and filling of a cavity, it matters very little whether they are easy or difficult if the examiners watch the operation, and if the cases prove so exceptionally easy as to call for special attention, the element of time can easily be introduced as a counterpoise. Moreover, as the patients would be distributed haphazard on the day of the examination, no candidate could select his own case, and if the authorities require interstitial cavities to be provided, "the risk" is small enough not to be considered.

The examinations at the Royal College of Surgeons, Ireland, the Inspector considered "sufficient;" at his suggestion some improvements have been made in the examination in Dental Mechanics and in the method of marking, which it is to be hoped will apply to both *sine* and *cum curriculo* students.

It is much to be regretted that the Council of the Royal College of Surgeons, Ireland, cannot see its way to require of *sine curriculo* candidates the same standard of knowledge as is expected of its *cum curriculo* ones. Whatever justification there may have been fifteen years ago to "make it easy" for the registered practitioner to obtain his license in dental surgery, at the present stage in our development such justification has ceased to exist, and while it may be permissible to allow any dentist registered in 1878, of reputable antecedents, to come up for examination, he should be required to pass in every particular, both in subjects and marking, the same tests as the *cum curriculo* student.

The "remark" made by the Dental Education and Examination Committee expresses the almost unanimous feeling of the Association and of a large majority of the dentists of Great Britain :—

"Since that date, 1878, only fourteen candidates have passed *cum curriculo*, whilst 490 have passed *sine curriculo*, and so long as the College continues the system, it is hardly likely that *cum curriculo* candidates will apply in any number."

The registered dentist of to-day should have too much pride in his profession to desire "a royal road" to obtain his diploma, and perhaps even yet the Council of the Royal College of Surgeons, Ireland, may see its way to adopt this suggestion.

In conclusion, we should like to record our high gratification that the General Medical Council has placed our examinations upon the same platform as the other medical and surgical ones as regards inspections, and venture to hope that in future such services may receive similar remuneration to that accorded to the inspectors in other departments, if the Dental Fund be not reduced in ways less useful to us and our calling.

Relation of Tuberculous Glands in the Neck to Dental Caries.

Dr. Starck, from observations upon 113 children, has according to our contemporary, *The British Journal of Dental Science*, "established a distinct relationship between lymphadenoma and dental caries in 41 per cent. of cases. In two cases he succeeded in discovering the presence of the tubercle bacillus in the tissues situated between the roots of a molar in direct contact with diseased glands. He considers it most important in treating these cases to extract all carious teeth, and in every way to place the oral cavity in a perfectly healthy condition."

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Representative Board.

THE next meeting of the Representative Board will take place on Saturday, April 3, at 3 p.m., at 40, Leicester Square.

W. B. PATERSON,
Hon. Secretary.

Scottish Branch.

THE autumn meeting of the Branch was held at the Glasgow Dental Hospital, St. Vincent Street, on Saturday, November 28, 1895, at 2.45 p.m. The PRESIDENT (Mr. W. Bowman Macleod) was in the chair.

After reading and confirming the minutes, the following gentlemen, members of the British Dental Association, were duly elected members of the Branch: Mr. W. D. Anderson, 22, Sandyford Place, Glasgow; Mr. T. Evans Johnston, 1, Playfair Terrace, St. Andrews; Mr. Arch. R. Maclean, 32, Lauriston Place, Edinburgh; Mr. J. Morris Stewart, 1, Melville Street, Edinburgh.

A vote of thanks was passed to the Managing Committee of the Glasgow Dental Hospital for the use of the hospital for the purposes of the meeting.

The following demonstrations were then given, and were much appreciated by the members and their friends, numbering about sixty.

(1) Timme's "Electric Furnace," by Mr. J. A. Biggs, Glasgow. The enamel on an entire upper set was prepared and fused. The body and enamel used were Dr. Timme's. The enamel is a true one, like Allan's, and not a composition of glass. The case was a little overheated, and therefore pale and somewhat defective, but on refiring was quite satisfactory. Fifteen ampères is necessary on the 110 volt current.

(2) Mr. WM. DALL (Glasgow) showed his Large Gas Furnace for Bridge and Continuous Gum Work, and also illustrated his method of pulp mummification under certain conditions of the pulp.

(3) Mr. WM. TAYLOR (Glasgow) showed a very beautiful series of moulds and apparatus for making an artificial larynx in vulcanite. These, it is hoped, Mr. Taylor will have photographed, and the description amplified for future insertion in the Journal.

(4) Dr. W. H. WILLIAMSON showed Custer's Electric Furnace. This furnace works with four ampères on the 110 volt current, and is thus more economical than Timme's. The merits of the two electric furnaces was the subject of much comment; but it was felt that further experience was desirable in the working of each furnace.

Votes of thanks were passed to the members who had so kindly given demonstrations, and the members then adjourned to the Royal Restaurant, West Nile Street, where some thirty sat down to a high tea under the presidency of Mr. W. B. Macleod.

A joint meeting of the Scottish Branch with the Odonto-Chirurgical Society of Scotland will be held on Thursday, February 11, at 7.45 p.m., in the rooms of the Dental Hospital, Chambers Street, Edinburgh.

A paper will be read by Mr. Guy, F.R.C.S.Edin., L.D.S.Edin., on "The Future of Dental Education;" and Mr. T. A. Macintosh, L.D.S.Edin., will show "Examples of the Use of Polishing Plates in Vulcanite Work."

J. GRAHAM MUNRO, } *Hon. Secs.*
C. REES PRICE, }

Southern Counties Branch.

THIS branch held their usual winter meeting at the Royal Hotel, Southampton, on Saturday, January 23, when, owing to the inclement weather, there was a very small attendance of members, though the papers and discussions were unusually interesting. Amonst those present were Messrs. J. H. Redman, the President, Morgan Hughes (President-elect), Ald. Rymer (Hon. Treas.), H. B. Gill (Norwood), Stephen Hoole (London), Charles Foran (Portsmouth), A. T. Croucher, N. Dunlop, and O. R. Dawson (Southampton), A. E. Ball (Bournemouth), F. Rogers (Winchester), J. F. Rymer and F. V. Richardson (Brighton), J. Ellis (Sandown), Arthur King (Guildford), and others.

After the minutes and letters of regret for non-attendance had been read, Mr. A. T. CROUCHER read an interesting paper on "Small Helps in every day Practice," which produced a good discussion. Mr. CHARLES FORAN read a paper on "Advertising," giving some examples of self-advertisement in its most objectionable forms. Mr. J. F. RYMER read a paper on "Dead Teeth," which was discussed by the PRESIDENT, Messrs. GILL, HUGHES, HOOLE and others.

The members lunched together at the Royal Hotel before the meeting, when £1 16s. 6d. was collected for the Benevolent Fund.

The next meeting will be held at Brighton in April. It is proposed to devote the meeting entirely to demonstrations of porcelain continuous gum and bridge work. The Council would be obliged if gentlemen willing to assist would communicate with the Hon. Sec. as soon as possible, so that the necessary arrangements can be made.

FRANK V. RICHARDSON, *Hon. Sec.*

Metropolitan Branch.

THE Annual General Meeting was held on January 29, at 40, Leicester Square, the PRESIDENT (Mr. F. Canton) in the chair.

The minutes of the last meeting were read and confirmed.

The PRESIDENT announced the nomination by the Council of Dr. Joseph Walker for the post of President-elect. Dr. Walker was unanimously elected. Mr. W. H. Dolamore was elected Hon. Secretary, and Messrs. F. Canton, M. Hopson, H. J. Kluht, J. W. Pare, E. Preedy, G. O. Richards, W. Rushton, and G. Torpey were nominated as candidates for the five vacant seats on the Council of the Branch ; Messrs. Stevens and Greetham were appointed scrutineers.

Messrs. E. A. Lewis and W. Rushton were appointed auditors.

Mr. W. RUSHTON showed models and gave details of a case of "Advanced Pyorrhœa Alveolaris," in which the teeth, owing to the disease, had become considerably displaced.

Mr. C. ROBBINS also contributed a Casual Communication.

Messrs. H. B. GILL, TORPEY, HUMBY, RUSHTON, REINHARDT, HOPSON, C. WEST, ROSE, and A. E. C. WOODHOUSE took part in the discussion, which confirmed the opinion expressed by Mr. Robbins, that laterals, absent in a dentition, are suppressed entirely and are not simply retarded in the date of their eruption.

The PRESIDENT announced that the scrutineers reported the election of Messrs. F. Canton, W. Rushton, G. O. Richards, H. J. Kluht, and E. Preedy, to be members of the Council.

The PRESIDENT delivered his Valedictory Address and then vacated the chair and introduced his successor, Mr. Sidney Spokes.

A vote of thanks to the retiring President and to the officers of the Branch was proposed and unanimously adopted.

Midland Branch.

A MEETING of the members will be held on Saturday, February 20, at the Dental Hospital, Mount Pleasant, Liverpool, by the kind permission of the Dean and Staff.

PROGRAMME.

10 a.m.—Council Meeting in the Board Room of the Dental Hospital.

11 a.m.—Casual Communications.

DEMONSTRATIONS.

"New Gas Apparatus : Anæsthesia produced by the combination of Nitrous Oxide and Oxygen," by E. HOUGHTON, L.D.S., and C. B. DALBY, L.D.S.

"Cataphoresis in Dental Surgery," by J. S. DICKIN, L.D.S.

"Cohesive Gold Filling," by J. P. HEADRIDGE, B.Sc.Lond., L.D.S. Eng., D.D.S.Penn.

"The Rationale of Non-Cohesive Gold Stopping, with an exhibition of his own Method," by F. ROSE, L.D.S.

"Fusing Mineral Gum in an Electrical Furnace ; also Swaging Strained Metal Plates on Plaster Models," by JOHN TINDAL, L.D.S., for Messrs. J. Royston, L.D.S., and W. Matthews, L.D.S.

"A Simple Method of Fixing a Gold Crown," by W. H. GILMOUR, L.D.S.

"The Combination of Gold Caps with Plastic Fillings," by R. M. CAPON, L.D.S.

"Fixing a 'Downie' Pivot ; also a Simple Gold Crown," by R. H. BATES, L.D.S.

"A Microscopical Demonstration," by PROF. PAUL, F.R.C.S., Lecturer on Dental Anatomy and Histology ; and JOSEPH A. WOODS, L.D.S., Demonstrator in Dental Anatomy and Histology, University College.

1 p.m.—Adjournment for luncheon. The Liverpool members invite the members to luncheon at the Adelphi Hotel, Lime Street.

2.15 p.m. —The members will re-assemble in the Chemical Theatre, University College (entrance Brownlow Street), kindly placed at the service of the Branch by the Governors, when the Demonstrations will be discussed.

5 p.m.—Afternoon tea will be provided in the Hall of the College.

7 p.m.—The Annual Dinner of the Students of the Liverpool Dental Hospital, at the Adelphi Hotel, to which the members of the Branch will be welcome.

Tickets for the dinner, 7s. 6d. each, exclusive of wine.

A dressing room where bags, &c., may be left, will be provided in the Hotel for members staying to dinner, who wish to return home the same evening.

The annual subscription to the Branch for the current year is now due, and should be paid to the Hon. Treasurer, Mr. G. G. CAMPION, 264, Oxford Road, Manchester.

I. RENSHAW,
Hon. Sec.

87, *Drake Street*, *Rochdale.*

Western Counties Branch.

THE spring meeting of the above Branch will be held at Ross, Herefordshire, on Saturday, May 1. The Hon. Sec. will be glad to hear from members who wish to bring forward any business or any subject of interest.

Benevolent Fund.

THE following contributions have been received since the last published list :—

New Subscriptions.

Taylor, Wm., 290, Duke Street, Glasgow (per Hon. Sec., Scottish Branch, 1897, *Local Representative*)	£1	1	0
Martin, W. F., 162, Oxford Street, Glasgow (per Hon. Sec., Scottish Branch, 1896 and 1897, *Local Representative*)	2	2	0
Lankester, Frank J., 13, Belvoir Street, Leicester (1897) ...	1	1	0
Councell, E. A., 49, Rodney Street, Liverpool (per I. Renshaw, *Local Representative*)	1	1	0
Bowtell, H. R., 10, Madely Road, Ealing	0	10	6
Van der Pant, H. W., Stockwell Lodge, 67, Worple Road, Wimbledon (per J. H. Redman)	1	1	0
Pidgeon, W. J., 76, Merton Road, Bootle, Liverpool ...	0	10	6
Andrew, John J., 2, Belgravia, Belfast (additional, 1896 and 1897)	1	1	0

Donations.

Wilson, Thos., 4, Corunna Street, Glasgow (per Hon. Sec., Scottish Branch, *Local Representative*)	0	10	6
Irish Branch of British Dental Association, collected at meeting December 4, 1896 (per Geo. M. P. Murray, Hon. Sec. Irish Branch, *Local Representative*)	1	14	0
Mellersh, W. Francis, 7, Wyburn Villas, Ewell Road, Surbiton	1	1	0
Barton, W., Sadowa House, Cornfield Road, Eastbourne ...	2	2	0
Matheson, L., 22, Wimpole Street, W.	1	1	0
Southern Counties Branch of British Dental Association, collected at meeting January 23, 1897 (per Frank V. Richardson, Hon. Sec., Southern Counties Branch, *Local Representative*)	1	16	6

Original Communications.

Some Experiments in Bridgework, with Illustrations from Practice, and an Introduction on its Engineering Aspect.*

By G. CUNNINGHAM, M.A.Cantab., L.D.S.Eng., D.M.D.Harv.

(*Concluded from p.* 21.)

Part II.

In the first lantern slide, the old or denture method is contrasted with the new or bridgework method. This patient presented himself wearing a vulcanite denture covering the palate and replacing a lost central incisor. Fig. 1 represents the external view of the mouth without the plate, and fig. 2 with the plate in position. The plate was well enough made from a mechanical point of view, but was markedly deficient in artistic quality from the unnecessarily large central incisor mounted on it. The lateral incisor was largely decayed, cavities extending from both the mesial and distal aspects to the pulp chamber. A curious and exceptional feature in the case is the presence of both the temporary and permanent canines side by side; the temporary canine was slightly decayed but perfectly firm in its socket—it was therefore determined, after careful consideration, to use it as a masked support for the bridge. The crown of the incisor was removed, and after treatment of the root canal and disking the labial surface of the temporary canine, a small bridge—consisting of a ferrule cap and dowel adjusted to the incisor, and a second cap fitting the prepared temporary canine and carrying three porcelain-faced teeth as shown in fig. 3 — was cemented into place. In order to enable this appliance to resist any outward thrust, the metal backing of the central incisor was extended so as to form a small lug resting on the mesial palatal surface of the left central incisor.

Fig. 4 shows the palatal aspect of the case as treated by the old and by the new method; the new appliance leaves the palate entirely free, and is securely fixed so that the patient cannot leave it on his dressing table, say, and his

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* Read at the Annual Meeting held in London, August, 1896.

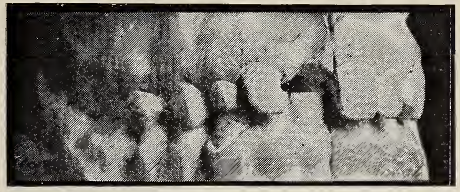

FIG. 1.

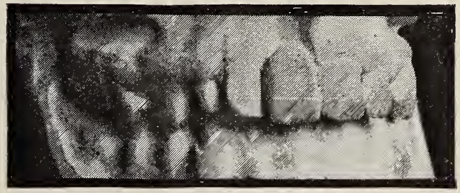

FIG. 2.

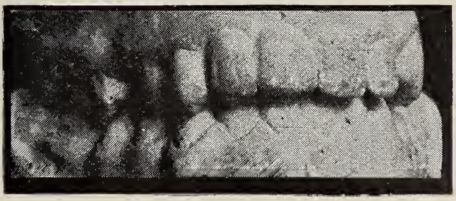

FIG. 3.

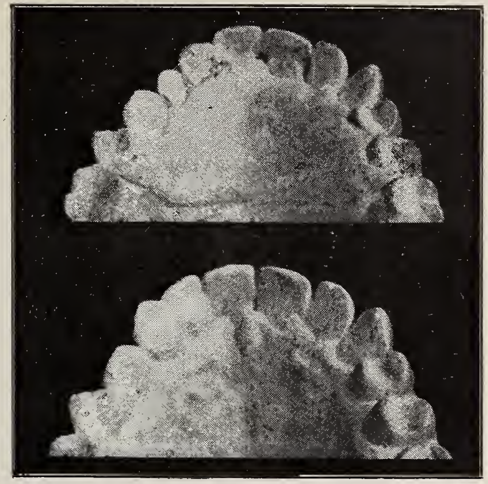

FIG. 4.

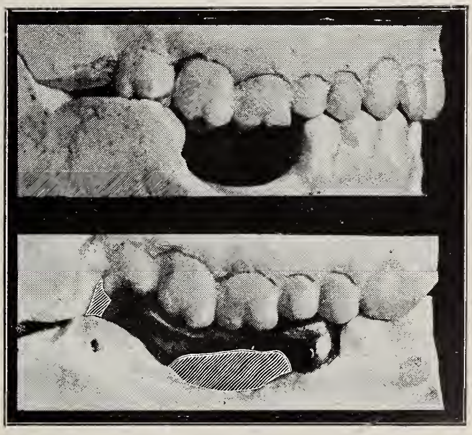

FIG. 5.

speech is clearer and more distinct, while a comparison of figs. 2 and 3 shows very clearly the æsthetic advantage gained by the adoption of the new method.

The next case (fig. 5) is a good example of the simple bridge to supply lost masticating surface in the right lower molar region in a well conditioned mouth. Incidentally, it is worth noticing how the two upper molars, from the loss of their natural antagonists, have lengthened. The appliance in this case consists of two simple gold crowns connected by a masticating bar, which in this instance is hollow. The main features of this case are three in number. Firstly, there has been no attempt to reproduce any conventional cusps on the appliance, or any division into individual teeth; the masticating surface is continuous and closely adjusted to the masticating surfaces of the upper teeth. Secondly, no attempt has been made to imitate nature by placing any porcelain teeth between the supporting caps nor porcelain faces upon the caps themselves, the appliance being entirely out of sight; it is evident that in such a case the addition of porcelain would be merely adding an element of weakness to the appliance. Thirdly, the large space between the masticating bar and the shrunken gum facilitates the appliance being kept clean.

The case represented in fig. 6 presented a problem of considerable difficulty, the space caused by the loss of the second bicuspid and left molar on the upper left side being almost wholly retained. The easiest way of treating such a case would have been by the insertion of the simple bridge as in the last case, but it would have entailed the disadvantage of a conspicuous gold crown upon the first bicuspid. An alternative method of treatment might have been the fenestration of the bicuspid cap and allowing the face of the natural teeth to show, but as will be explained later on, the fenestrated cap has such drawbacks that it should be avoided wherever possible. It was deemed, therefore, better to make the appliance mainly depend for support on the two molars with an extension resting on the first bicuspid. The study of the appliance as shown in fig. 6 gives a clear idea of the construction of the bridge, showing as it does the double molar crown and the extension bar supplying the lost masticating surface. Had the space been smaller, the extension might have been formed on the cantilever principle. The long extension in this case, despite the solidity of the double molar support, would not have been justified from a mechanical point of view without utilising a bicuspid as a strut. The durability of such an appliance will be watched with interest, since it is evident that such an appliance permits of a gliding movement at one end of a cantilever bridge.

One of the yet unsolved problems of the bridge worker is how best to extend the appliance backward when there are no teeth behind to form an abutment. In many cases the application of the cantilever principle meets the difficulty, but, as the following lantern slide shows, it is only applicable within certain limits. In this case all the teeth were lost behind the second bicuspid on the upper left side, and consequently the lower molars were absolutely functionless. By adapting a gold crown to the second bicuspid with a strong anchorage inlay in the first bicuspid, which was extensively decayed, an extension was made posteriorly to supply masticating surface for the lower molars. At the end of a year or so it was found that the anterior foundation was not sufficient, and the whole appliance was drawn backwards, and fresh decay had occurred around the anchorage inlay. After excising the fresh decay and filling, the appliance had reached a position of equilibrium, and continues to perform efficient service. It may be anticipated, however, that the durability of such an appliance cannot be as great as if both bicuspids had been completely crowned. When, however, the appliance fails, it will not be difficult nor a very lengthy operation to replace the anchorage inlay with a second crown. A few years' experience has shown that an anchorage inlay is but a very indifferent substitute for a full or even a fenestrated cap. It would be too much to say that it should never be employed. At first sight it is enticing from its apparent simplicity. Experience, too, has not shown whether it is better to fit the anchorage inlay very closely to the whole surface of the cavity in the tooth, so that there should be little filling material, or whether it is better to let it fit loosely, with a considerable substance of cementing material around it. Having tried both methods, I must confess to both failure and disappointment. Just as in crown work, the ferrule crown, from its embracing the whole thickness of the tooth, must be stronger

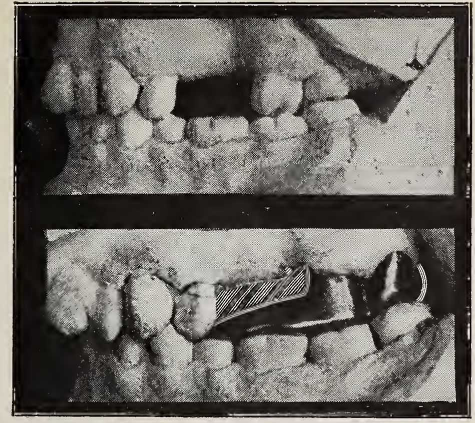

FIG. 6.

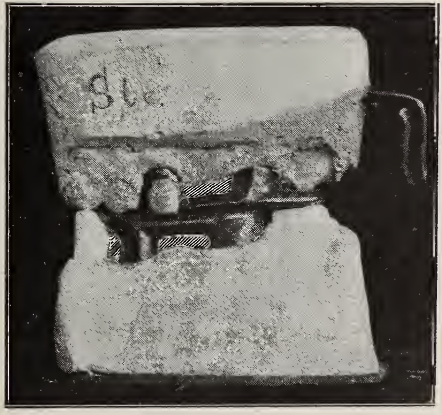

FIG. 7.

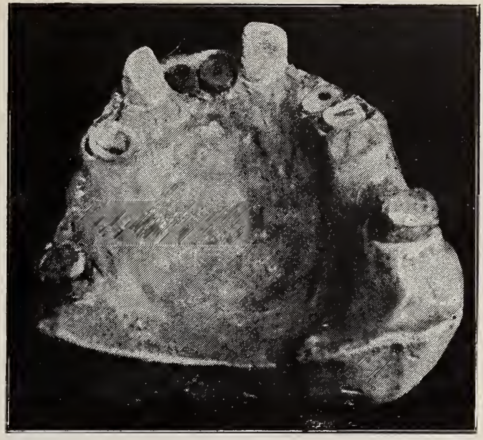

FIG. 8.

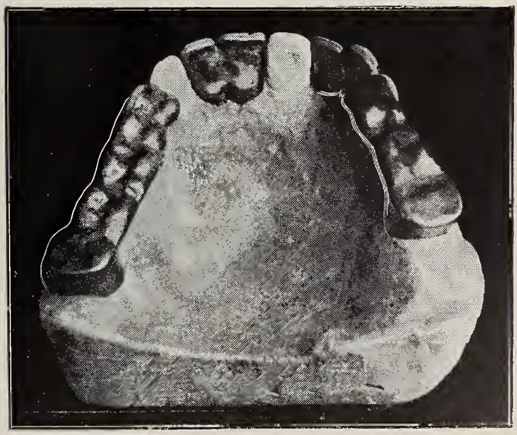

FIG. 9.

from a mechanical point of view than a dowel crown which can only gain its support from half the thickness of the tooth, so the ferrule or cap terminal attachment must be stronger than any inlay extension cemented into the cavity of a tooth.

The two bridges illustrated in fig. 7, besides showing in each case an application of the pure cantilever principle for extension of the bridge, mark the necessity of recognising that what we may call the æsthetic factor has a predominance in one case which it has not in another. For instance, in fig. 7, the addition of a porcelain face to the cap in the lower case would be merely adding an element of weakness absolutely unnecessary except where the lower teeth were exceptionally visible. In the upper case, however, the first bicuspid is so much in view that a porcelain face or a fenestrated cap is advisable. The diagram has been made from a student's model, and not from the actual case, and does not at all do justice to the original appliances. In this instance, a fenestrated cap was adapted to the first bicuspid. An objection will naturally be taken to the amount of gold showing at the cervical border; this, however, was a matter of necessity rather than choice, since there was considerable erosion at the neck of the tooth, and the gold of the cap is no more conspicuous than would have been the alternative treatment of a gold filling had no bridge been applied. The weak point in the fenestrated cap is the difficulty of so adapting the edges that further decay is precluded. Here, again, is an instance of a method of attachment which certainly has its field of usefulness, but it is limited, and great judgment must be exercised in its application, the personal factor counting a good deal, since it is evident that it is much easier to make a good, well-fitting all-gold crown than it is to adjust any variety of fenestrated or three-quarter crown.

Sectional Bridges and Crowns in Place of Full Denture Bridge.

Fig. 8 represents a case which many bridgeworkers would have treated by a single fixed appliance involving the whole arch of the upper jaw. Having seen so many of such cases fail before having rendered even a moderately reasonable term of service, it seemed worth while testing how far sectional treatment was more advantageous. After carefully testing the roots, the case was treated as shown in fig. 9. On the right side a bridge was cemented into place consisting of a gold cap covering the strong healthy third molar, and a ferrule cap covering the filled root of the second bicuspid, united by a strong masticating hollow bar carrying an extension with a porcelain filling to replace the lost first bicuspid. To the roots of the right central and lateral incisor a twin-dowel crown was applied as being better than two single crowns in this case, because of the central incisor being weaker than usual from an old chronic abscess and consequent partial absorption of the alveolus. On the left side the strong root of the canine was made to carry a platinum ferrule dowel crown with porcelain facing, as well as an extension gold crown with porcelain face to replace the lateral incisor. The bridge on the left side extends from the first bicuspid to the second molar, and consists of a platinum ferrule cap with double dowel carrying a porcelain facing, and joined by a masticating bar to a gold cap fitting the crown of the second molar. Such sectional treatment seems to be better than uniting all four sections into one continuous fixed appliance. After three and a half years' wear they seem as firm and solid as when inserted, and in conjunction with a removable bridge plate adapted to the lower jaw constitute an effective masticating mechanism.

Fixed and Removable Bridgework.

It is of course obvious that the same objections do not apply to the full arch denture if it is made removable, and that a single removable bridge might have been applied in the last case. Not unnaturally the dentist's inclination is to give preference to the removable bridge rather than a fixed one, whenever a choice is possible; one main reason for this predilection no doubt is the easier application of the requisite cleansing. Fixed bridges are not necessarily impossible of being kept sufficiently clean, and there can be no question from the point of view of the wearer that a fixed appliance affords much greater satisfaction than any removable one.

The next two lantern slides have a rather interesting bearing on this point, since the appliances on the right side of the mouth, both upper and lower, are removable, while those on the left side are fixed.

The patient's decision is that there is absolutely no comparison between the two, inasmuch as she feels that the fixed bridgework is as much a part of herself as the gold fillings in her front teeth, whereas there is a persistent sense of artificiality of the appliance of the right side, together with the occasional inconvenience of finding herself at table and the removable bridges on her toilet table upstairs.

Removable Bridgework.

Many cases where patients are wearing dentures with plates covering the whole surface of the palate can be improved by the substitution of a removable bridge plate. In all such cases it is, however, well to make it an invariable rule that all teeth or roots which are used as supports should be protected by some close, well-adapted, metallic appliance, either in the shape of crowns or tube caps in the case of roots. Gold is the material which is most used as affording the greatest combination of lightness and strength, but vulcanite surrounding a stiff wire strengthener joining the caps seems to deserve perhaps an even more extended use than it has hitherto received, more especially as it reduces very considerably the cost—a matter of very great importance in what is necessarily a very expensive series of operations, from the time and skill involved in the basal operations preparatory for the proper reception of the bridge.

The next lantern slide illustrates a removable bridge in vulcanite, which was made intentionally only for a temporary purpose. It is worth noting that this case, or its duplicate in gold, has been worn for nearly ten years, and two of the supporting roots had been been left unfilled for seventeen years under an ordinary denture which covered the entire palate.

The next case represented is one showing a removable bridge in platinum and continuous gum with tube teeth. The attachments consist of a dowel fitting into a metal-lined first bicuspid root and a platinum-iridium clasp fitting a platinum cap on the third molar.

The next slide represents a different method of attachment, which I have not seen elsewhere, and has given excellent results. A platinum ferrule cap was adjusted to the second right upper bicuspid, and on that was adjusted a solid gold crown with a porcelain facing. It is, however, divided down through the centre by a slot which receives a strong blade attached to a removable bridge, similar to the one on the other side with the exception of the anterior attachment. These bridges were inserted four years ago, and the right bridge with the fixed blade attachment has proved the better of the two, as in two years the tube cap, owing to the friction of the dowel, had become loose and had to be re-cemented.

The next slide shows another specimen of this split crown and blade method of attachment, the blade in this case being posterior attachment. Advantage has been taken of an extensive mesio-corono-distal cavity in a lower molar, which permitted of application of a divided gold cap for the reception of the blade. Such an arrangement might be made at both ends of the bridge, and in certain cases can be combined with a clasp. These, in combination with the plate acting as a saddle, make a very firm and rigid appliance, capable of withstanding a very large amount of lateral pressure. It must be admitted, however, that such attachments are very difficult to make, from the extreme exactitude with which the component parts must be assembled. It is found best in applying a bridge of this kind to have both the fixed and movable parts completed out of the mouth, and insert the removable bridge immediately after the cementation of the caps.

Bridge Plates as a Substitute for " Bar Lowers."

Many have been the expedients to prevent the sinking of those dentures which are currently known as " bar lowers." The mechanical difficulty of making an appliance which rests in front on hard tissue like the teeth and the soft cushion-like gum at the back is obvious. It is not surprising that such cases rapidly lose much of their functional value from a sinking of the molars, but sometimes at least they lead to undue pressure on the gum behind the lower teeth. In time the roots become more or less exposed, and that condition which our American friends call phagædenic pericementitis becomes chronic. In several cases we have tried that which, for sake of distinction, we may term a bridge plate as a substitute. In this the bar joining the masticating portions of the denture are closely fitted to the backs and upper edges of the six lower front teeth, so that the gum in front is left perfectly free and uncovered.

Time will not permit to enter into the details of their construction, but such cases can be applied and worn with perfect comfort, and in one or two cases where the patient had already suffered from wearing the usual form of lower denture, the condition of the gums has been greatly improved.

Characters of Suitable Cements.

I have been gradually collecting notes of my experience with different cements. I have used various forms of phosphate cement but have been unable to determine that any one particular make is better than another. It is essential in crown and bridgework that it should be of a slow setting variety, and as it is a material which has no germicidal value of its own, I usually endow it with that quality by adding a considerable amount of powered copper sulphate. The copper phosphate cement of Dr. Ames did not prove very successful in my hands for either crown or bridge work. I have had good results, however, from mixing a considerable proportion of the black oxide of copper with an ordinary phosphate cement—it makes a good tenacious slow-setting cement.

In one or two cases I have noted results after intervals of two or three years—no softening, no caries of the disked teeth.

The very quality of the phosphate cement is an objection to it, as in many cases it is extremely difficult of removal. Such a material as gutta-percha would seem to have distinct advantages, especially in the case of fixed bridgework, since it would facilitate removal if required. My experience with the material, however, is that it has not that requisite fluidity which is essential in getting a bridge or crown home where there is, as often occurs, no space to spare.

With regard to the effects of covering up a disked live tooth, it has been said to necessarily entail the subsequent death of the pulp. So far, though I have practised such a method for many years, no such result has ensued.

If a cap becomes worn through, the cement underneath will be rapidly disintegrated and caries of the dentine rapidly ensue ; indeed, one may safely put it forward as the most rapid kind of decay one encounters.

Rapid decay under caps may be explained by the absence of the continuous work of the saliva, thus preventing the removal or neutralization of the acid formed by the micro-organisms, and so causing a similar concentration of the acid products to that which occurred in Professor Miller's experiments in the artificial production of caries in test tubes. Dr. Black has verified Professor Miller's observation, that moderately thick sections of dentine might be completely decalcified within four weeks' time.

The indication is, therefore, that the majority of caps are made a great deal too slight, too thin, and of too soft a material. As soon, however, as the wearing through of a cap may occur, despite all precautions taken, it is better, instead of leaving a large mass of cement, to fill, say, the carious cavity of a crown tooth, to fill it first of all with amalgam, even if necessary applying for that purpose a temporary matrix.

DISCUSSION.

Mr. MAITLAND: I should like to ask Mr. Cunningham a practical question with regard to our general work. We have to do with one fact, viz., speed, and I should like to know how Mr. Cunningham's work, with its various complications, compares in speed with the older-fashioned, if less perfect, system in vogue in the past generation.

Mr. HUNT: I see in the abstract of the paper the words, "Experimental Results." I should like to be a little more enlightened upon that. I am not speaking specially of selected cases under most favourable conditions, but of the ordinary average cases that come under the notice of all of us, and I should like to know from Mr. Cunningham what his experimental results have been with regard to such cases. I am accustomed to consider that a bridge—no matter whether for the mouth or for the Forth—has to depend for its strength upon the piers, buttresses, and supports upon which it rests. I may be wrong, but that is my conviction. The great element in the question is, therefore, what are the experimental results of the average cases that come before us? I should like to be enlightened upon that point.

Mr. WYNNE ROUW: It seems that Mr. Cunningham sacrifices almost entirely the æsthetic principle to that of use; therefore I should be inclined to cross swords with him, for it seems to me you can combine both. If the slides which have been exhibited are to be taken as fair gauges of the actual appearance of the apparatus in the mouth, then no attempt, as far as I can make out, has been made to contour the crown. Contouring the crown does not take much more time than blocking out the crown. I think that a judicious application of an admixture of contouring with the working out of the crown itself might with advantage have been adopted in some of those cases. Mr. Cunningham has spoken about the cantilever system. As far as I can make out, that means continuing the crown for the masticating surface over a space not occupied by teeth. In a few of the models, as he has shown, it seemed that there was no other support for the continuation of the masticating surface. My experience teaches me—from the few cases I have seen—that ledges so left, that is to say, the continuation of the masticating surface, form a very favourable site for the collection of large masses of food, and to such an extent that at times the patient cannot possibly dislodge it with ordinary efforts. Within the last six weeks I have removed a crown bridge of this description, which the patient complained of. The bridge was a fixture in his mouth. Underneath it was the usual collection of food, and he assured me that it was a painful business to be continually using his tooth-brush in his efforts to dislodge the food. It appears to me that this raises a very relevant point. Are we, in our efforts to do all we can for our patients, to give them such an apparatus as Mr. Cunningham has been able to work out, and are we to adopt it in a large number of cases? I should be inclined in most cases, I think, to fall back on the old plate. I use the crown wherever possible, but I think that Mr. Cunningham has gone a little too far when he expressed the idea that these cantilevers, or extensions, could be used in a large number of the cases where the plate was generally adopted.

Mr. BREWARD NEALE: I should like to ask Mr. Cunningham whether he has observed any definite results as far as the permanency of the case is concerned? I ask Mr. Cunningham's pardon to suggest that anything he does could fail, but some of us have had failures in these cases. I should like to ask him if he finds, in the cantilever cases, as he calls them—that is to say, where the terminal edge of the plate is not supported—the life or usefulness of that bridge is less than in a case which is supported definitely at each end?

Mr. KEVIN E. O'DUFFY: I am sorry to have to say a word against Mr. Cunningham's cantilever bridges. I have seen perhaps a score of these bridges with their abutments resting on unprotected teeth, and the results, if not fatal, have been always injurious to such an extent that I would never insert one without both ends of the bridge being attached to teeth crowns. The result has been decay of the teeth, or else displacements by pressure of mastication, the bridge being pushed down and the natural teeth forced aside.

Mr. J. DENNANT: I presume that bridge-work cases are only successful where they are specially selected, and from what we have heard from the lecturer, I take it that he has been very careful in the selection of his cases. I would like to put one question to elicit an expression of opinion from him as to the percentage of failure in the direction, say, of periostitis in connection with the teeth supporting these bridges, and how far, in his experience, periostitis is the result of permanent attachment of bridge work.

Mr. REINHARDT : I cannot criticise the paper, but I notice that several of the cases shown have abutments or supports which are evidently living teeth. I have put crowns on living teeth, and I have inferred from what the patients said that they would rather be seventeen years without the crowns than have another one done.

Mr. G. O. WHITTAKER : With regard to the author's system of cantilever, I have done but few of them on what may be termed a similar principle, but attaching only one tooth each side. For example, where a patient has lost a first bicuspid and first molar, leaving the second bicuspid standing, I prepare and crown that tooth, attaching a single tooth only each side. I do not agree with Mr. Cunningham's method of leaving such a large space underneath. Judging from the experience I have had during the last few years, I do not see any great harm in having gold and porcelain pressed well against the gum in fixing the crown, providing they are nicely rounded off and well polished before fixing. I find that after a few years there is not much absorption, and in some cases none whatever, neither did I see any lodgment of food underneath. In my opinion that is much more satisfactory than having the hollow space where the food can lodge. The author showed an illustration where he had a slot in one tooth, but on the back teeth there was no slot at all. I should like to ask Mr. Cunningham how he found that bridge to work. There was apparently a good abutment on one side, but no abutment on the other, and I should think, from what experience I have had, that that side would have a tendency to cut into the gum, and also cause periostitis. I am certainly in favour of small bridges. A few years ago I should have hesitated to destroy a nerve in, say, a central tooth, presuming that the patient had a good set of teeth, but had perhaps lost through an accident one central tooth. The old plan was to make a plate, with tooth attached, spring against the back teeth, or a smaller plate attached by small bands to the front. After a few years the gum becomes inflamed, and decay sets in around the necks of the teeth. For some time past I have been in the habit of crowning the remaining central, and attaching another central to it, and I think that in such cases it is far preferable to using a large or small plate. I certainly believe that if you have a tooth likely to last ten to fifteen years, it is far better to have a small crown or bridge than to use an artificial plate and run the risk of injuring several teeth.

Mr. BEADNELL GILL : Mr. Cunningham has introduced a very large subject when he takes up the question of bridgework, and especially bridgework on the cantilever principle. If I may be permitted, I will touch on one or two points that appear to me to require a little further light. The first would perhaps be the making up of his bridges. In the case he cited he brought forward three sections instead of one whole one. Being a bit of an engineer myself, by nature as well as by education, I rather doubt the applicability of his cantilever being correct, that is, supposing he puts the cantilever upon the right upper extremity. The fact that he carried his bridge round the mouth and fixed the crown upon the left side, would tend to improve his cantilever instead of doing the reverse. You have only to try in a very simple manner. If you put the wire round on the left side as far as the canine, and the abutment again on the second molar right, and extend beyond and press, the amount of strain on the left canine would be very considerable in tending to raise it ; but if the bridge is carried further round on to the left side and is fixed to a molar on that side, the amount of pressure that he applies on the right side would be practically absorbed by the resistance of his crown on the extreme left side. That is a simple process in mechanics which I do not think Mr. Cunningham has quite taken into account. Another matter I would like to ask is this : Has he, in another class, chosen specially fortuitous cases, that is, in which he brings not a crown, but a mere rest on to a natural and healthy tooth ? Because if he takes just those cases which we are all occasionally fortunate enough to find for the work, I say you may do pretty well what you like with them, and cannot very easily produce decay, then I grant you that it may be a good system ; but those cases come so seldom, and as I grow older I find they get less frequent, and fear they will become less frequent still. I have from time to time made an occasional bridge-piece in these fortuitous cases, but I must say my experience of cases that come under my notice of other people's work has been that almost invariably, after a few years of wear, where these rests have taken place—except in very few mouths—there has been a tendency to decay, and in that decay the margin has always been distinctly discernible at the point of contact between the rest and the tooth—not under it, but at it, just as we find in the case of teeth which approximate each other too closely. The next point is that of cutting down teeth which still retain their vitality, or, more correctly speaking, their pulp. I quite agree with one of the speakers who asserted that patients do not appreciate that proceeding. I am speaking of the average patient, and not of those cases of which I previously spoke, viz., those with which you can do pretty well what you like. But as I said before, if Mr. Cunningham could show me any method by which he could get over these more or less delicate mouths, in which we most frequently find the necessity for applying bridgework, I should be very glad to see it. Mr. Cunningham, I think, must remember and take into consideration, in advocating this process, that the teeth of the present day are getting, if anything, less and less inclined to stand rough usage, and what is more, you will find a larger percentage of cases which have had a considerable amount of conservative treatment, and conservative treatment of very good quality, and that treatment has to a certain extent failed, and a certain number of teeth have been lost. Those are the patients who will come to you most frequently, and beg to be excused from wearing plates, but I doubt if, after some years of experience, even Mr. Cunningham will recommend the frequent application of bridgework in what you may reasonably consider the average class of mouth you meet with in general practice.

Mr. W. R. HUMBY: I should like to ask the author a question or two. He has spoken of the calculation of stress in these cases, and the result of the strain, and the crushing strength of the various materials we use. I thought when the cases were put on the screen that we should have the principle upon which all those little mathematical calculations were carried out, but I do not know whether that is considered to be necessary without being implied, or what the inference would be. Another thing I should like to know is with reference to the irregularities in the manufacture of platino-iridium. A great deal of platinum is now used in crown work and that sort of thing, and it is very important that we should understand what the nature of the impurity is, if there is any in it. Mr. Cunningham says there is not a definite composition of iridium and platinum, but it is a sort of indefinite combination which we do not know the composition of. There is a great need of a pure material, and we ought to know the actual composition of the gold and platinum. If Mr. Cunningham has an analysis of the platinum with him which he speaks of, I should be very glad if he could let us have it. I have found platinum very irregular in quality, and I think this is the experience of others.

Mr. CUNNINGHAM, in reply, said: It is a little difficult to sum up and answer all the remarks, but I will endeavour, as far as I can, to do justice to the points without seeming to evade any questions. Questions have been asked me which I am afraid I cannot adequately answer under the special circumstances. The first point, which I think is a very practical one, was that advanced by Mr. Maitland, as to the question of speed between older methods and the new. There can be no doubt about it, for this newer work must be much more expensive to the patient from the fact that it requires much more time, and a greater exercise of mechanical skill on the part of the operator than the ordinary methods. With regard to the question whether it is worth it, that is a point which I would rather settle when I refer to some of the other speakers. Our friend, Mr. Hunt, unfortunately, has not read the abstract quite rightly, and he criticised me because I did not give him the experimental results. In the abstract I say, "Characters of suitable cements—experimental results." I have not really had time to go into that, but I have in a book here, which I would read did time permit me, a record of what I call *post-mortems*, not only of my own cases, but other cases which occasionally come under my notice. I keep a careful record of the varieties of the cements and the conditions under which I have used them, and as far as possible I am endeavouring to find out some information with regard to them. The only point I was anxious to bring out in connection with this was the adding of a germicidal material to the cement, but so far I have not found out any particular cement which I am prepared to recommend as being experimentally the best, or one of the best. As a matter of fact, that is a question as to what our phosphate cements are, and I have reason to say that it is not merely an impression, but it is a question of knowledge that the phosphate cements continually vary, and that some phosphate cement of the same maker continually varies, and we get different results. In order to get at the percentage of results as Mr. Hunt requires, we must have a great number of cements, and must have definite experiments conducted in the laboratory, and as yet we have no dental institution which enables us to carry out such experiments as I think would be advisable—experiments conducted as to the strength of materials, or as to the strength of cements. I suffer myself from wearing what is called a "bar lower," and one of the effects of a bar lower is that it sinks in the mouth and presses on to the back of the teeth, and you get what is called phagædenic pericementitis. It causes a great deal of trouble to get rid of it. I have been trying to get rid of it for some of my patients. I have improved the conditions, and the way I get over it is by making a bridge bear on a lower bridge-plate, a plate that does not bear on the gum but bears on the tooth itself, and is free from the part usually covered by a gold plate. I say there is a revolution coming in dentistry in that direction. You will ask why, if I have done it for my patients, I have not done it for myself. Unfortunately one of my colleagues, in my student days, took out two of my teeth, because he could not make a plate otherwise. I can only tell you I wish I had those two teeth back again, and that I knew as much about bridgework then as I now know. I have been criticised because these bridges have not been contoured on the sides. I did not go into that because, first of all, these photographs are photographs from students' exercises, and not exhibits from actual preparations in the mouth. I attach a great deal to contour. I can only appeal to the gentleman who made that remark to give me a little more time, for I have got a most important contour, and a contour which is not known. I am longing to write a paper on coronal contour. That is the contour you want, and the others are of subsidiary importance. We have the real factor there, and when we have a coronal contour we get a good masticating surface. Mr. Neale asked me whether I prefer a cantilever or a supported bridge. In the case of the cantilever there is no other end to fix it to, so that I cannot say which is the better!

Mr. NEALE: I asked you if you had noticed any material difference in the life of bridges so made.

Mr. CUNNINGHAM: I think, so far, my life has been a little too short to come to any conclusion about the matter. I started off by saying that the best and strongest form of bridge is where you could cap two teeth and join them with a masticating bar or beam across. If you cannot do that, a cantilever comes in and supplies the deficiency, which is not supplied by any other appliance that I know of at the present time. Again, I am challenged with regard to the cantilever principle. First of all, Mr. O'Duffy assumes that when you put in a cantilever extension it must press on another root. It need not press on another tooth, and very frequently you get a great deal of useful wear where there is no other place to lean upon. Then it may be brought up towards the tooth and made to lean there. Sometimes I have dished the surface and made it perfectly flat, and brought it on a level, resting on a wedge, but that is experimental work. If he says that his experience is that he has never seen one without decay, I can only say that his experience is not coincident with mine. Where I have dished a cavity out and made a position for a strut for the cantilever to rest in, I have found food to lodge, but the bulk of my experience with a cantilever and rest has been the other way. I could state many instances where after several years there is absolutely no decay when the patient takes reasonable care of the appliance. Some of our fillings decay, as we know; it is not our fault, but the fault of the patient who does not clean them. Mr. Dennant, with his usual caution, says there must be great care exercised in the application of these things. He is quite right. He wants to know the percentage of periostitis that follows in such cases. All I can say is that I have had very little trouble indeed. I am going to suggest a cure for periostitis. I have a case at the Institute of an extremely loose tooth. It was a question whether the patient would have it out, and the patient said it was a hopeless case, and he would have it out. I have fixed up that tooth with a bar without any bridge or capping, simply slotting the tooth and putting a blade in the slot, anchoring it in with cement, and it has steadied the tooth, which is now remaining in the mouth comfortably and in a very much better condition than it was some months ago. I have known teeth, which have been weak, strengthened by getting away from the conventional and doing something new, and not taking it for granted that we know all that is going to occur because of our theoretical knowledge.

In answer to Mr. Reinhardt, I may say that many of my patients, when I have got them through their purgatory, have been quite satisfied with the results. With regard to my friend, Mr. Whittaker, he objects to the hollow spaces because the food collects there. That is not the case, because they are not hollow, and so clear that they are easily cleaned. The self-cleansing plate we read of in ordinary works on bridgework is a misnomer, it is a food trap. I ask Mr. Whittaker to take an opportunity of inspecting some of our cases in the mouth, and he will find that it is not a place where food collects. I do not say there is no food there at all, there is food in all our teeth, but there is no space which makes any objectionable lodgment. With regard to building up, I am very interested in hearing what he says about resting the appliance on the gum; when he says that the gum underneath becomes cornified I know other places where the mucous membrane disappears, and you get a raw ulcerated place. I am perfectly prepared to say that that must be tested by experience, and I am glad to know there is one intelligent practitioner making experiments in that direction, and we shall benefit by those experiments in course of time. With regard to Mr. Gill's remarks, he is so much of an engineer that I cannot follow his point. He wants to know whether the cases I have chosen are fortuitous cases? I really do not know; I think they are both or either! I chose them as the best that I had at my command, and, therefore, fortuitous because they are the only ones I have. But they do not, by any manner of means, exhaust my collection, nor are they, in my opinion, thoroughly adequate to the work. I am an impressionist, and I do not know anything about teeth being less and less inclined to rough treatment. That is an impression. I have been trying to treat this question, and I have been courageous enough to bring before you the points, and I have laid stress on some of my failures. I think that is right. What we want to do is this: our life time is too short to live it out and make a large number of cases and find out the result, but science, study, and experiments enable us to get an accurate knowledge long before we acquire it in the ordinary slow way of clinical observation. Therefore, I have argued, we ought to have more experimental results with regard to the strength of materials and the conditions under which we work. I have great sympathy with some of my critics because I remember the time when I too was an anti-bridge worker and opposed to it. I have had to meet the conviction of experiments in the mouth, and all I know is that bridgework has come to stay, not only in my practice, but in many practices where it is not yet recognised. I do not mean to say it is a replacement for every case we meet, but there are many in which bridgework is the best artificial appliance that can be given when the patient is so unfortunate as to have lost his teeth and requires some such appliance.

The Removal of Iodine Stains.

A solution of hyposulphite of sodium in water will, according to *Items of Interest*, remove iodine spots from linen, cloth, skin—in fact, from everything, almost instantly. The fresher the spots the more quickly will the hyposulphite act.

Touch Bulbs in Dentine.*

By R. T. STACK, M.D., F.R.C.S.I., L.D.S.Eng., D.M.D.Harv.

In bringing this communication before you, I do not wish to represent it as anything else than the placing before you of a few lantern slides of some microscopic preparations, in order that I may have the benefit of your comments upon the interpretation of their meaning.

When I sent up a notice to the secretary that I would read something in the Microscopical Section, I did not wish it to be understood that I had any hope of bringing forward a communication that would at all be of the same value as that of the other gentlemen whose names appeared upon the list. I have further to apologise to the members of the Association for the somewhat defective character of most of my lantern slides. I have to say, however, that I have not had quite fair play in my laboratory in Westland Row, because of the vibration caused by the recent construction of the loop-line which runs across the street a few yards below my office; and it often happens that just at the moment of taking the photograph some unlucky vibration has interfered with the fine adjustment of the focus.

Now, the specimens that I am laying before you are all ground sections, and I confess that I am not sufficiently familiar with all the researches on this subject, and the recent literature on it, to be able to tell whether there is anything original to others in the few points that are to myself original. While I have suggested the name "Touch Bulbs in Dentine" to this communication, I do not stand pledged to this title, yet I think there is some warrant for assuming that the definite formations that appear near the ends of the dentinal tubules when they have entered the enamel may fairly be set down to have a connection with the sense of touch.

First of all, to trace the surface of the odontoblast outward, I would wish to exhibit this slide.

We have here what we are all familiar with—the processes of odontoblasts having been pulled out from the dentinal tubules, and, tracing this on somewhat further we come to the ramifications and inter-communication of the dentinal tubules, and finally to these definite endings in the enamel, which appear to me all to have more or less a definite bulbous shape—the shape of a minute elongated bulb.

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* Read at the Annual Meeting, August, 1896.

When we reflect what a wonderfully delicate sense of touch there is on the surface of the enamel in most cases, there would be nothing surprising in finding a special development of the nerve endings at the inner side of the enamel, or as far as possible produced into the internal structure of the enamel.

As regards this slide, I may say that it is not possible on a lantern slide to show all that can be seen on the microscopic slide from which it has been taken, and that the general impression left upon me from examining a number of these slides, all prepared from sections carefully ground, was that this shape or space may be regarded as a pretty definite shape and not of a haphazard character.

We have, of course, both between the enamel and the dentine, and between the cementum and the dentine, and in the substance of the dentine itself in certain cases of defective development, spaces of a different character, more irregular in shape, both in the cases of the granular layers under the cementum and the enamel, and spaces also irregular, but in the main with an irregularity capable of explanation in the inter-globular spaces due to defective development. We also have in young teeth, where the calcification of the dentine is not complete, spaces very much of the same character as those of the inter-globular spaces, as in this section, taken low down from a root of a young tooth. This space in all probability would have become entirely obliterated as the tooth had grown.

I wish, however, to draw a distinction between the regular bulbous or fusiform shape to which I have alluded, and these other cavities, and to proceed a little further with reference to this cavity of definite shape, and to point out the presence of such a cavity in a situation where it is probably not necessarily connected with the sense of touch.

I wish to show one or two specimens where a somewhat similar space was found towards the outer surface of the dentine close to the cementum. And here again I wish to guard against this definite shape being assumed by my hearers and critics to have been mistaken by me for a Haversian canal cut across.

Nor do I wish it to be considered that I confound it with a case of absorption of the dentine where the cementum is re-deposited, as has been pointed out by the late Sir John Tomes, in the cavities found in the dentine, and I wish to bring forward the definite shape here shown.

This definite fusiform space, I think, can be traced to absolute connection with the large cement corpuscle, and would seem to point here rather to some interchange of nutrient material between the cementum and the dentine.

The other slides which I have to show point rather to a general free communication between the cement corpuscles and the dentinal fibrils.

In conclusion, I would say one word apart from the physiological uses of these spaces, on what may be called the surgical anatomy of the question.

As regards the expansive bulbs in the under surface of the enamel, this slide calls up vividly before us the great difference between the smooth outside surface of the enamel on which no bacterium should be able to find a footing, and the inner surface of the enamel, hollowed out, rough and irregular—a very haunt, once it is reached, for bacterial invasion. And as regards these somewhat similarly shaped spaces in the surface of the dentine close to the cementum, communicating freely with the cemental corpuscles, it becomes a question to which I would be glad to receive an answer—Is it yet established how far the dentine of a tooth from which the contents of the pulp chamber have been removed may be considered to be a dead tooth, or how far nutrition in the sluggish form required by the dentine may not be carried on in the collateral plasmic circulation through the cement corpuscles and these fusiform dilatations in the dentinal tubules?

DISCUSSION.

Mr. CAUSH: I am very deeply interested in the remarks of Dr. Stack, having been myself working on somewhat similar lines in the study of cementum and dentine. In staining I have found, in many cases, that there has been an absolute intercourse between the tubuli and the spaces found, especially in the newly deposited tissue of dentine. It is a point of interest, I think, that I have been able to obtain stains passing right through into the enamel even in the ground sections, showing that there must be in these touch corpuscles, as Dr.

Stack calls them, an intercourse of a sort of soft material from the tubuli.

Mr. TOMES : Mr. Mummery has a lantern slide of Dr. Dentz, which probably he might show. The peculiarity of the specimen is that it shows a body very much of the form of many familiar nerve-end organs. It was obtained from the dentine of a temporary tooth. Both Mr. Mummery and I have been looking at hundreds of dry sections of temporary teeth, and have never found anything like it, yet the space is so big that in a dry tooth it would necessarily be quite a conspicuous object. We are driven to the conclusion that in Dr. Dentz's specimen we have some very unusual malformation. There is a little doubt about accepting the view that nerve-end organs are common, or exist at all, in the principal nerves of the dentine. I think we might almost fairly assume that if they were there they would be disposed with considerable regularity, and would be always there. I do not think that the occasional finding of a space which looks like a nerve-end organ enables us to fairly say that it contained a nerve-end organ unless the thing had ceased to be functional and was in process of disappearance. An organ which is becoming rudimentary does vary, of course, and appears irregular. But I do not think we have any reason whatever to suppose that in any former condition of the teeth they had need to be, or were, more sensitive than they are at present. I have listened with the greatest interest to Dr. Stack's paper, because the whole physiology, so to speak, of dentine, and particularly of its outer layers, is very much unknown. I do not speak against Dr. Stack's conclusions : I am only pointing out, as every scientific man is bound to do, the difficulties of accepting his or any other view.

Mr. F. J. BENNETT : I thank Dr. Stack for his most interesting communication. As Mr. Tomes has said, almost anybody can have an opinion as to what these structures are. We may be right in going back to "nerve endings" or "touch bulbs," or we may find that they are really spaces due possibly more to developmental lesions. But I think we should pause before attributing to many of the specimens Dr. Stack has shown us, a highly nervous condition. There are other explanations, especially with regard to the specimen he showed, in which the spaces are found running into the enamel. We are absolutely in the dark, and there is no fixed ground at all for opinions. Therefore Dr. Stack has a perfect right to put before us any view he pleases, and in any case we are very much indebted to him.

Dr. STACK, in reply : I am sorry to say I only heard Mr. Tomes' remarks, and not those of the other gentlemen who were so kind as to speak. As regards the regularity of these spaces, it must be remembered that a great deal of the argument I have tried to bring forward was based upon my belief that these spaces are of a sufficiently regular character to warrant the possible assumption that they contained developments of the nerve fibre. With regard to the enamel—where, be it remembered, I was only inclined to insist on there being, through some channel or other, or from some cause or another, a very delicate sense of touch on the outside of the enamel—when I said the enamel had no doubt a very delicate sense of touch I did not at all mean to convey the impression that the enamel itself was sensitive. I meant that with a tolerably thick enamel on the top of the tooth there was a provision by which it could feel the minutest thing on it. I can hardly conceive that that wonderful provision can occur without some specially developed nerve-endings on the inner surface to account for it. However, I do not bind myself to any view as to how this sensation is conducted ; I only went for the nearest sensitive place I knew—the surface of the pulp ; and until some other explanation is given of it, I must consider that some nerve influence is conveyed through the hollow dentinal tube out to that region. I guarded myself as regards the cementum by saying that the fact of the bulbous spaces being in the part of the dentine underlying the cementum would seem to indicate that these characteristic spaces in this region are not utilised for nerve-endings, and I think I said I did not see any great necessity of sensitiveness of the dentine toward the cementum. While there is no reason, so far as I can see, why the same tube should not convey a nervous impression and discharge the function of nutrition, yet from what Mr. Tomes said in his paper, I am inclined to adopt the idea that these spaces, where they occur near the cementum, are of a nutritional character rather than nerve conductors.

" A Simple Method of Crowning."*

By VERNON KNOWLES, L.D.S.Eng.

Of all the various branches of dentistry none is so interesting or fascinating as that relating to " crowning," and none gives greater satisfaction to our patients. Whilst many practitioners seize every possible opportunity of exercising their skill in this direction, yet it is no uncommon thing to come across those who never, if they can possibly avoid it, go in for crowns, chiefly because of the supposed difficulties which beset this method of reproducing nature.

The method I venture to bring before your notice I have used for the past four years, and in my humble opinion it combines the advantages of the Richmond and Büttner systems, without their disadvantages. The caps are made of soft platinum, No. 4, Ash's gauge, and are about $\frac{3}{8}$ inch square—that is, home-made ones are—in the centre if for a front tooth; a small hole is made with the pin nippers and enlarged with a drill or reamer—which makes a slight bur on one side—to the size of pin wire, through which the pin, which has a thread on it, is inserted and soldered so that the burred side of the cap is next the root. This makes the pin slightly thicker, and thus stronger, where it joins the cap, which is always the weakest part of a pivot. The advantages of a "screw post" are that it holds better in the osteo or gutta percha with which the crown is fixed, and so a much shorter pin can be used—in fact a pin a quarter of an inch long is quite sufficient, and then again it is very useful for those who prefer to fix their crowns with mastic and silk, as it prevents the same from getting pushed down to the bottom of the pin, which is usually the case. It is best not to cut the pin off close above the cap until just before fitting down the tooth face, but to leave $\frac{1}{8}$ inch projecting so that it can be easily removed whilst adjusting to the root. For those who use gum body with Ash's, Dall's, or Downie's furnace, the pin must be soldered with pure gold to prevent discoloring, and that part of the pin above the cap should be long enough, so that when flattened the pins of the tooth can be bent over it to keep the same in place whilst firing. The pin need not necessarily be of platinum, as the gum bodies prepared by Ash and the Dental Manufacturing Company fuse at a much lower temperature than that of dental alloy. For first bicuspids the pin must be slightly off the centre because of the bifurcated roots, and it is best to use the palatine root, the

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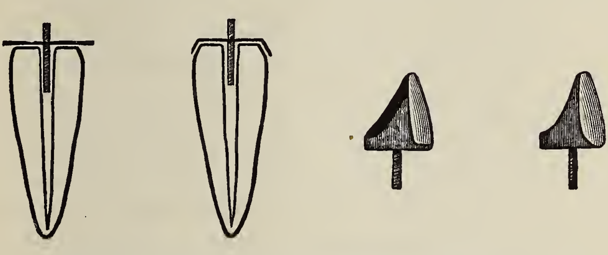
* Read at the meeting of the Southern Counties Branch, at Guildford, October 24.



Diagrams showing the various stages in making a crown.

piece projecting above the cap is then out of the way whilst letting down the tooth. Having shaped the root as previously stated, preferably flat and well under the gum at the buccal edge, select a cap from your stock which looks about the right size, then measure the length of pin required by means of the "canal gauge," a round nut working on a pin slightly larger than pin-sized wire, with a screw which Ash's make for about a shilling. Put the pin up the root as far as it will go, then work the nut up until it touches the face of the root, measure the pin on the cap, and if it is too long cut down to length of pin on the gauge. Next take a pair of nail scissors, or better still a pair of Girwood's curved plate scissors, and trim the cap to the same shape as the face of the root, only slightly larger, about $\frac{1}{16}$ inch. If any difficulty is experienced in cutting the cap to the required shape, a good plan is to take a small piece of rubber dam, push a piece of pin wire through the centre, and then trim it to the exact size of the root, remove it and place on the cap, the pin of which should go through the centre as before; then cut the platinum to the same shape as the rubber disc, taking care to leave a margin of $\frac{1}{16}$ inch. After a little practice one can dispense with this process, and cut the cap to the required size straight away. Then bend the edge of the cap down so as to form the collar; this can only be done with a very fine-nosed pair of pliers. Ash's make a very useful pair of crowning pliers with bent beaks, which can be used for crowning either upper or lower teeth, the tips or noses being not more than $\frac{1}{16}$ inch wide.

With these pliers it is quite easy, after a little practice, to shape up a very good fitting collar in a very short time. Care must be taken not to bend down too much of the cap at a time or else it will kink. Having gone round once, go round a second time, bending it so that the over-hanging portion is at right angles to the cap, which will, by this time, have assumed the shape of the root. Now try in, and if the cap be too large, as will probably be the case, this will be shown by a slight red mark on the gum; where this is so, bend over a little more of the cap and remove the superfluous portion with the scissors, as the collar should be nowhere deeper than $\frac{1}{16}$ inch—even less will do. When the collar fits, it is as well to go round the edge with a hatchet-shaped burnisher and so make sure that it fits close to the root. Then let the tooth down, which has meanwhile been backed in the work-room with a piece of the same platinum and the pins bent over, not riveted, and mount with sticky wax, taking care that the bite is clear. A good deal of time can be saved, if the patient does not mind an extra visit, by taking an impression of the root, preferably by Lennox's method, and having the cap and tooth face rough-fitted in the workroom. Before investing, take a small oblong piece of very thin platinum foil and cut it across lengthways, this will make two triangular pieces; place them on the sides of the crown by means of a warm wax knife, so that the shortest side comes to the bottom of the collar, the other side of the right angle, touching the edge of the backing from top to bottom; the longest side will then be free, and should be cut to whatever shaped contour required, the two triangular pieces are joined together at the back by an odd scrap, which likewise goes to the bottom of the collar and is cut to height required. Having invested and boiled out, you now have a hollow space enclosed by a platinum matrix, and the solder will flow readily outwards and not "ball." When the solder comes up to the edge of the platinum you know that sufficient has been flowed in. The advantage of these platinum wings, besides giving the required contour to the crown, is that in cutting up and polishing — which is best done with carborundum wheels on the lathe or engine, holding the pin in a nick in the crowning pliers already alluded to, made for that purpose, so getting a better finish and running less risk of bending the pin than is the case when files are used—one can grind away the platinum until the solder appears, by which time one has generally got a good polish and the collar is just the same thickness as it was at the commencement.

In the case of bicuspids, having fitted down the tooth face one would cut a piece of foil to go right round and up to the top of the sticky wax, which has already been shaped up to the required height; this gives a good contour, and close bite, which can be cut down in the mouth if required. Ash's make the plain caps with screw posts in two sizes; one round, for incisors, canines and second bicuspids; the other oval, with pin off the centre for first bicuspids. Those who prefer making their own caps can obtain lengths of platinum or dental alloy pin wire ready tapped, also the soft platinum, No. 4, in single or double widths, from the same source.

Legal Intelligence.

Prosecutions under the Dentists Act.*

At Brighton, January 19.

A PROSECUTION of great interest to dentists, medical men, and the general public came before the Stipendiary (Mr. C. G. Heathcote) and other magistrates at the Brighton Police Court, on Tuesday. Moses Harris, 99, Western Road ; A. Ferguson, *alias* Cutler, 12, East Street; M. D. Dinjian, Manager of the American Dental Institute, 123, King's Road ; E. Woods Oxborrow, of the Anglo-American Dental Company, 114, Queen's Road ; E. S. Foley, 89, King's Road ; E. P. Day, 15, Old Steine; and H. J. Barker, 18, Trafalgar Street, were summoned for using the title of "Dentist," and representing themselves as qualified in dentistry, contrary to the provisions of the Dentists Act, 1878. All the defendants pleaded not guilty.

Mr. R. E. Moore, barrister (instructed by Messrs. Blaber and Watson, solicitors, of 12, Great Castle Street, Oxford Circus, W.), appeared to prosecute on behalf of the dental profession in Brighton ; Mr. Purcell (instructed by Messrs. F. Richardson and Sadler) appeared for Mr. Dinjian ; Mr. Clydesdale, barrister, appeared for Mr. Harris ; Mr. A. V. Treacher, solicitor, appeared for Mr. Foley ; Mr. H. Prince, solictor, for Mr. Day ; Mr. Holmes, solicitor, for Mr. Barker; and Mr. Buckwell, solicitor, for Mr. Ferguson.

The case against Mr. Harris was taken first ; and Mr. Moore, in opening, explained that this prosecution was taken under the Dentists Act of 1878, in Section 3 of which it was provided "that from and after the 1st day of August, 1879, a person shall not be entitled to take and use the title or name of dentist either alone, or in combination with any other word or words, or of dental practitioner, or any name, title, addition or description implying that he is registered under this Act, or that he is a person specially qualified to practise dentistry, unless registered under the Act." It was declared that the "word, title, addition, or description" used in the Dentists Act included any title, addition to a name, designation, or description, whether expressed in words or by letters, or partly in one way and partly in the other. The Act also provided that "any person who, after the 1st of August, 1879, not being registered under the Act, takes or uses any such name, title, or description, shall be liable, on summary conviction, to a fine not exceeding £20." Mr. Moore further explained that the prosecution was undertaken in the interests of the registered and duly qualified members of the profession, and also for the protection of the public, who should be guarded against the unskilful treatment which they were constantly receiving at the hands of men who set themselves up as duly registered and competent dentists. In consequence of the ignorance of the public, especially amongst the poorer classes, as to who were and who were not qualified dentists, many were taken in by "poachers upon the profession," charged exorbitant prices, and received unskilful, and often injurious treatment. In any other profession, legal, medical, or clerical, an unqualified person was at once proceeded against; but, for some unaccountable reason, the dental branch of the medical profession was allowed, with little or no opposition, to be made the happy hunting ground of almost anybody who chose to set himself up as a "dentist." It was, also, not generally known amongst the public that any unqualified dentist could not hope to recover fees in any court of law for work done. The officials of the General Medical Council in London admitted that there were scores and scores of unregistered persons in the country acting as so-called dentists, without a murmur being raised by the qualified members of the profession. It was in order to strike a blow in a small way at this, that the prosecution was undertaken. Mr. Moore drew attention to Section 3, which provided that unless a person was duly qualified by being on the register, he was not entitled to use in any way the titles, "dentist," "dental surgeon," "surgeon-dentist," or "American dentist." He then put in the register, with a view to showing that Mr. Harris's name did not appear in it.

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* These cases were not undertaken by the British Dental Association.

Mr. CLYDESDALE, who appeared for Mr. Harris, said he would admit that.

FREDERICK ROBERT BALDRY, private inquiry agent, of 52, Lillington Street, Pimlico, was then called. He said he visited the defendant's house in company with Mr. Henry Kemp, of 21, Martindale Road, Balham, on December 23 last. He rang the bell, and asked the lad who opened the door for "Mr. Harris, dentist." They were shown into a front room on the ground floor, and the defendant entered. Witness said, "Are you Mr. Harris, the dentist?" to which he replied, "Yes." Witness then asked him to examine his mouth, and Mr. Harris did so in a back room, fitted as a dentist's consulting room. As a result of the examination, Mr. Harris said the back teeth, top and bottom, wanted extracting, and he offered to provide new ones at any price. Ultimately witness agreed to have some at £3 3s. An appointment was made for the following Tuesday, when the stumps would be drawn. Mr. Harris gave him a business circular on leaving. In the course of the interview Mr. Kemp said to defendant, "Of course you are a qualified dentist?" to which he replied, "Yes."

Cross-examined by Mr. CLYDESDALE: Witness was instructed by Mr. White to visit Mr. Harris's. Mr. White had employed him before as a private inquiry agent. He did not know who instructed Mr. White. Defendant did not deny he was a dentist, and did not offer witness his business card.

GEORGE WOODS, private inquiry agent, of 21, Epple Road, Fulham, said that on January 4 he went with Miss Eliza Watts, of 57, Alderney Street, Pimlico, to the defendant's premises. Outside there was a case of artificial teeth, with "Harris, dentist," on it, and in the same window, on a wire blind, "English and American dentist. Complete set, £1 1s." There was also "Diploma d'honneur, Paris, 1893."

At this point Mr. CLYDESDALE requested that Miss Watts should leave the court while this witness was giving evidence, and the request was complied with.

Witness, proceeding, said he saw defendant. He asked, "Are you Mr. Harris, the dentist?" and defendant replied, "Yes, I am; come his way," and showed them into the surgery. The room contained a dentist's chair and two other chairs, where you could sit down "like anybody would with anybody." Miss Watts consulted defendant about her teeth. Defendant said she wanted two new teeth, which he would supply for a guinea, and stop some others for 7s. 6d. He finally agreed to do both the stopping and the new teeth for 15s. Defendant also said witness wanted an entirely new set of teeth, which he could supply for £3 3s. There was to be a guinea deposit. Witness protested against paying this, and defendant said, "Well, it is only a matter of form; there will be less for you to pay when you come." Witness offered half-a-crown, and defendant then said, "Make it 3s.; it will be even money when you come to fetch them." Witness asked for a receipt, and defendant gave him one (produced), saying he had seen a hundred patients that day, but he (witness) was the first who had asked for a receipt. During the interview, defendant took an impression of witness's mouth, and also of Miss Watts', and an appointment was made for some days after, when the plates would be ready. While in the consulting-room he saw a notice to the effect that all new customers should pay a deposit.

Cross-examined: Defendant was not described as a dentist on the receipt.

The STIPENDIARY: I supposed it is admitted that he practises as a dentist. Mr. CLYDESDALE: I don't deny that he practises the mechanical part of the work, but not surgeon dentistry. On his card he describes himself as a manufacturer of artificial teeth. I shall contend that he never held himself out as a dentist.

ELIZA ALICE WATTS corroborated the testimony of the last witness.

For the defence, Mr. CLYDESDALE called Mr. H. L. GOODMAN, dentist, who said he had known the defendant for twenty-six years, during twenty-two of which he had been a dentist.

The STIPENDIARY said it surely could not then be contended that defendant did not practise dentistry. Mr. CLYDESDALE said he was unable to deny that there had been a technical offence. His point was, however, that defendant was engaged in the manufacture of artificial teeth before the Act, and that he had never held himself out as a dentist within the meaning of the Act. He stated that there was a case now in the High Court, in which a number of dentists, who were practising at the time of the Act, including Mr. Harris, were claiming to be be placed on the register, and urged that a prosecution while this action was pending was a harsh act. He asked that the case might be postponed until the High Court had decided whether these persons were entitled to be placed on the register. Defendant was entitled to be placed on the register, and had, in fact, applied to the committee after the passing of the Act of 1878, but had recived a letter to say he was too late. The letter was now produced.

Mr. MOORE said that, in view of the facts that had been mentioned, of which he had been unaware, he would not press for more than a nominal penalty. If the circumstances mentioned were correct, defendant had been entitled at the passing of the Act to be placed on the register, and why he had neglected to take advantage of the opportunity he could not conceive. He had only himself to blame that he was in court that day. He asked for a nominal penalty in order that the fact might be made known that unregistered persons might not practise as dentists.

The STIPENDIARY said the committee might have had other reasons for not placing defendant on the register. He adjourned the case for eight weeks.

The case against Mr. E. S. Foley, of 89, King's Road, was next heard ; Mr. Treacher, solicitor, appearing for the defendant.

FREDERICK ROBERT BALDRY said he visited 89, King's Road, on December 22. On a brass plate on the front door was the inscription :— " Foley, surgeon-dentist." Over the bell-pull were the words, " Dentist's bell," and in another part, " Mr. Foley, American dentist," and on the windows of the top floor, " Foley, dentist." He went in, and saw a woman, who told him Mr. Foley was out, and with her he made arrangement to call another day.

ELIZA WATTS said that on January 6 she visited defendant's premises.

Mr. TREACHER objected to any evidence being taken as regarded that date. The summons referred to what took place on December 22, and he contended that what happened on January 6 had nothing to do with it.

The STIPENDIARY said the case could be met by altering the date of the summons.

Continuing, witness corroborated Baldry's evidence as to the words on the door and house. She made an appointment, and visited the house again on January 8, when she saw a gentleman, not the defendant, who stopped her tooth. Whilst in the room, Mr. Foley came in, and she asked if he was Mr. Foley, the dentist. He said he was. Mr. Woods asked the same question with the same result. He examined her mouth, and said there were two decayed teeth which should be drawn, and false ones substituted. He said it would cost about one guinea and a half. She preferred to have one tooth stopped, and he charged her 5s. for this, coming down to that price from 7s. 6d.

George Woods corroborated as to the visit on January 8.

Mr. Treacher pointed out that defendant's name was on the register, though not at his Brighton address.

Mr. Moore said he was instructed that defendant was not the man. The witnesses now declared that the Mr. Foley in court was not the man they had seen at 89, King's Road. He ascertained that the two men were brothers, and it was the brother (not the defendant) who was unregistered. This accounted for the mistake.

Mr. Treacher said defendant had a practice in London, and had only recently opened in Brighton.

Mr. Moore said that under those circumstances he could no longer press the case, though it was clear there had been a mistake as to the identity of the defendant.

The summons was dismissed with costs.

The case against Mr. Manhoog D. Dinjian, manager of the American Dental Institute, 123, King's Road, came on next.

Mr. Moore said this case was somewhat complicated by the fact that the defendant was in the employ of the American Dental Institute, a limited company, and the case might be affected by the Companies Act. He should, however, bring evidence to show that defendant had held himself out as qualified to act as a dentist, but was not, in fact, on the register,

Frederick Robert Baldry said that on December 22 he visited 123, King's Road, with Mr. Kemp, and was shown into a room. After a time he saw defendant, whom he now identified, and asked him if he were "Dr. Dinjian, the dentist." He replied, "Yes, I am ; I am the manager." At witness's request, defendant examined his mouth, and said some of his teeth would have to come out, and asked whether he would have gas or not, remarking that if he did so he would have to have a doctor, which would cost him at least 10s. a visit. Witness could have his own doctor if he liked. Some more conversation followed, and witness asked defendant if he was a qualified dentist, and he replied that he was. Defendant also gave him the card now produced. Finally, witness made an appointment for another time.

George Woods was called to give evidence as to a visit on January 6.

Mr. Purcell objected to evidence being taken as to January 6, when the summons referred to December 22.

The Stipendiary said the date of the summons could easily be altered to include January 6, and, after some discussion, this was done.

Witness, continuing, said on January 6 he went to 123, King's Road with Miss Watts. He saw on the door plate, "American Dental Institute." He saw the defendant, and asked him if he was "Dr. Dinjian, the dentist," and he replied, "Yes." Defendant gave them advice about their teeth.

Mr. MOORE contended that the circumstances under which the defendant said he was a dentist brought him within the meaning of the Act.

Mr. PURCELL urged that because defendant once said he was a dentist, it did not cover the meaning of the words "taking and using the name of dentist." They must have something much more definite and explicit than the using of the word dentist upon one occasion. He also doubted whether they could accept the testimony of the witness. He called

Mr. ISADORE CLIFFORD, of Grosvenor Street, London, S.W., a director of the institute, who said the directors were all registered dentists. The Brighton Branch of the Institute had been established ten years, and they had other branches all over the country. Defendant was entitled to be put upon the dentists' register on the strength of his medical examinations.

Cross-examined by Mr. MOORE, he said the shareholders of the company numbered seven, and he admitted that they were all relatives. He also admitted that Dr. Dinjian had not taken steps to register himself, but intended to do so shortly.

The STIPENDIARY said he did not think there was sufficient evidence to prove that defendant had held himself out as a qualified dentist, and dismissed the case.

Mr. PURCELL, on behalf of Mr. Dinjian, applied for costs, but the STIPENDIARY did not think it was a case in which he could allow costs, and refused the application.

The remaining summonses were then adjourned for a week.—*Brighton Gazette and Sussex Times.*

JANUARY 26.

The important and interesting prosecutions commenced last week under the Dentists Act, 1878, against several gentlemen for taking and using the name or title of "dentist," and not being registered under the Act, were resumed on Tuesday, in the Brighton Police Court, before the Stipendiary (Mr. C. G. Heathcote) and other magistrates. On the previous occasion three cases were disposed of, and there were four more to be dealt with. The defendants were: A. Ferguson (*alias* Cutler), 12, East Street; E. Woods Oxborrow, of the Anglo-American Dental Company, 114, Queen's Road; Dr. E. P. Day, 15, Old Steine; and H. J. Barker, 18, Trafalgar Street. Mr. E. Marshall Hall, barrister, and Mr. R. E. Moore, barrister (instructed by Messrs. Blaber and Watson, solicitors, of 12, Great Castle Street, Oxford Circus, W.), appeared to prosecute on behalf of the dental profession in Brighton; Mr. Purcell, barrister, appeared for Dr. Day and Mr. Ferguson (instructed by Mr. Prince and Mr. Buckwell respectively);

Mr. Leonard Holmes, solicitor, appeared for Mr. Barker; and Mr. R. J. Tickle, solicitor (London), appeared for Mr. Oxborrow.

The case against Dr. Day was taken first.

Mr. MARSHALL HALL said the case was much the same as those already heard. Visits were paid to Dr. Day, and arrangements made for the drawing and supplying of teeth. One witness actually had a stump extracted.

The STIPENDIARY: Out of devotion to his employers? Mr. MARSHALL HALL did not know about that. He proceeded to state that to convict the defendant it must be proved that he implied he was registered, or that he was a person specially qualified to practise dentistry. He called

HENRY KEMP, private inquiry agent, of 21, Martindale Road, Balham, who said that, on December 23, he went with Frederick Baldry to 15, Old Steine. There was a brass plate on the door, with "Dr. Day, of Philadelphia, U.S.A.," and just inside the door was the London address, 9, Charles Street, St. James's Square. He rang the bell, and a woman answered the door. Witness and his companion were shown upstairs to a small room, and the woman made an appointment for them to see Dr. Day next day. Witness gave the name of "Whitley." On the next day, in pursuance of this, witness and Baldry went to the place, and were shown into a well-furnished front room. Eventually they were shown into a small room, where Dr. Day was waiting. Witness asked, "Are you Dr. Day, the dentist?" He said, "Yes." Witness told him he wanted his nephew's teeth attended to, meaning Baldry. The latter sat in a surgical chair, and his mouth was examined. Dr. Day said some of the stumps ought to come out, and said he would do the work and supply false teeth from £1 1s. upwards. They agreed to pay £6 6s., which would include gas. Witness then said, "I suppose you are a qualified dentist?" He replied, "Oh, yes." While Baldry was in the chair one stump was taken out. A further appointment was made for Monday, December 28, and 5s. deposit was paid. Dr. Day told witness he ought to have new teeth. He replied that he could eat his food all right, and Dr. Day said: "See how much better you could eat if you had new teeth." He said he would see how his nephew's false teeth were.

Cross-examined by Mr. PURCELL, he said he took notes of the cases. He signed his notes, as did also Baldry. He and Baldry wrote their notes in the street on leaving the houses. He was employed by Squire White, a private detective of London, who, he believed, received his instructions from Mr. W. H. Blaber, the solicitor for the prosecution, but his principal master was Mr. Kendal.

GEORGE WOODS, private inquiry agent, of 21, Epple Road, Fulham, said that, on January 5, he went with Miss Alice Watts to 15, Old Steine, and was shown into a consulting room. He saw defendant, who twice during the visit said he was Dr. Day, the dentist. Miss

Watts told him she wanted something done to her teeth. Dr. Day said he could stop a tooth for £1 1s. She complained of the price, but he said he did nothing but the best work. Dr. Day made an appointment for January 12 with Miss Watts. In the course of the interview, witness said to Dr. Day, "Of course you are a qualified dentist, and will do your work well?" He replied, "Oh, yes, certainly."

In cross-examination he said he took notes. He refused to hand them to Mr. Purcell.

FREDERICK ROBERT BALDRY, private enquiry agent, of 52, Lillington Street, Pimlico, corroborated Kemp's evidence as to the visit on December 23. He signed Kemp's notes as correct.

For the defence Mr. PURCELL said the case depended upon the trustworthiness of the witnesses. Fortunately for Dr. Day he was not dependent upon his own denial of the statements to disprove the evidence. Dr. Day was undoubtedly a qualified man, having won his degree after two years' study at Philadelphia, and had been practising since 1878. He had been ten years in England, partly in Chester, with a registered dentist. He was aware of his legal or illegal position, and had always been careful to observe the law. He denied that he said he was a dentist, or implied that he was registered.

Mrs. BERTHA LONDON, wife of George London, a watchmaker, housekeeper to Dr. Day, was called, and said she opened the door to Baldry and Kemp and showed them upstairs twice. One of them on one occasion asked Dr. Day, "Are you the dentist?" He said, "No, I am Dr. Day." Witness had been housekeeper for four years.

Cross-examined by Mr. Hall, witness said Dr. Day had not a large practice. He was often in London, Mr. Foster being left in charge in his absence.

Mr. PURCELL: Mr. Foster is a registered dentist.

Mr. JOHN RICHARD TYNDALE, Solicitor, Essex Street, Strand, said he had known Dr. Day ten or twelve years. From time to time he had consulted him as to his legal position. He was a man of considerable skill and ability.

In cross-examination witness warned him that if he held himself out as a dentist he would be acting illegally. He tried to register Dr. Day but failed, the Philadelphian degree being no qualification.

Re-examined, he said the reasons for the failure was that the Philadelphia College did not respond to the Medical Council in London when the invitation was sent in 1888. Only two colleges in America did respond.

Mr. EDWARD GEORGE FOSTER, practising with Dr. Day at 15, Old Steine, said he was a registered dentist.

Cross-examined, he said he paid himself for his registration. He had no qualification as a dentist when registered in 1878. He was the "Edward Foster" who appeared on the register.

Mr. PURCELL said no qualification was required in 1878, the fact that a man was practising being sufficient.

Cross-examination continued, he said he had a diploma now. His name was not on the door at 15, Old Steine. He and Dr. Day had an agreement. He always practised at Old Steine.

Mr. HALL: I suggest you are "covering" Dr. Day. WITNESS: Nothing of the kind. He shared profits with Dr. Day.

The STIPENDIARY said he had no reason to doubt the evidence of three witnesses for the prosecution. He should be surprised if they had committed wilful perjury, because there was no worse kind of perjury than that committed by informers. There was nothing in the evidence to make him come to such a conclusion. It was plausible, consistent, and clear. It had not been contradicted in any material point by Mrs. London. As to the other two witnesses, he did not think they threw any light upon it. He thought Dr. Day held himself out as being a dentist, and there must be a conviction. He, however, took into consideration what had been said as to his competency, because the highest possible penalty would be properly imposed upon a mere charlatan who had no qualifications.

Mr. MARSHALL HALL said it was with reluctance that the proceedings were taken in this case, because Dr. Day was a skilful practitioner.

The STIPENDIARY said the law must be enforced, and imposed a fine of £10 and £3 13s. 6d. costs, or 21 days' imprisonment with hard labour.

The case against A. Ferguson (*alias* Cutler), 12, East Street, was then taken. Mr. Purcell again appeared, instructed by Mr. Buckwell, solicitor.

Mr. MARSHALL HALL said this was a bad case, as the element of skill present in Dr. Day's case was wofully wanting in this case. He was carrying on business under an alias and was absolutely incompetent, not having even attempted to pass his Preliminary Examination.

HENRY KEMP was again called. He said on December 23 he went with Baldry to 12, East Street. On the ground floor is a hairdresser's (Cutler and Co.) Above the shop were some rooms kept by the defendant, and outside the door was a show case of artificial teeth and testimonials. There was an inscription, "Mr. Ferguson, of New York," on the door and facia. He asked for Mr. Ferguson, and was introduced to the defendant. Witness said he wished to consult him about his nephew's teeth, and was shown into a surgery. Ferguson said the stumps wanted taking out and his whole mouth was in a bad state. He said he could take them out without pain, aud could provide new teeth for any sum from £1 1s. He guaranteed them for a number of years. An appointment was made for the following Monday, and Ferguson gave him a circular with numerous testimonials. Witness gave the name of "Whitely." He was sent there to get evidence, and during the conversation witness asked, "Are you a qualified dentist?" and he replied "Yes."

George Woods deposed to paying a visit to 12, East Street on January 5 with Miss Watts. He saw Ferguson and asked him if he was "the dentist." He said "yes," and examined witness's teeth. He said they wanted taking out, and wished to take one out that night, to show how painless his process was. He said he could make sets of teeth for from £2 2s. to £5 5s. He said he would have the £5 5s. set, and a mould of his mouth was taken. He paid 2s. 6d. on account, and made an appointment for a later visit. He said it was impossible to do a set for £1 1s., and he had sacked several men in London for taking orders of £1 1s. while he was with Mr. Goodman in London.

Frederick Robert Baldry corroborated Kemp's evidence as to the visit on December 23.

Frederick Walter Moore, qualified dentist, practising at 39, Preston Road, who attended on subpœna, said he knew Mr. Augustus Cutler, the present defendant calling himself "Mr. Ferguson, of New York." He was articled to him as an apprentice. He was with him three years and acquired some knowledge of dentistry. He was a fairly decent pupil. He went to Mr. Goodman, Ludgate Hill, from witness. Defendant's name was Cutler, and he had not, to his knowledge, been to New York. He was not aware that defendant had passed his Preliminary Examination at any time.

Cross-examined, witness said defendant was apprenticed in 1887. He had not seen much of him since.

Mr. Purcell, for the defence, said there was nothing upon the premises which amounted to calling himself a dentist or implying that he was registered. One would expect in the case something outside of the premises to confirm the statement. The circulars were a mere declaration that the man was practising dentistry. He asked the Stipendiary not to act upon the testimony of the witnesses, not because they were perjuring themselves, but because their evidence was not good enough. He stated that he was instructed to call three witnesses as to the credibility of the witnesses for the prosecution.

The Stipendiary said he did not know how that could be admissible. He might be able to call all England to give evidence of that kind.

Mr. Marshall Hall said that in a recent case he asked a solicitor's clerk whether he was believed when he made a statement, and this almost sent Sir Frank Lockwood into a fit.

After some legal discussion, Mr. Purcell said he would not persist in tendering the witnesses. He called

Dr. David Thorburn, M.D., of 17, Ship Street, Brighton, who has rooms at 12, East Street, who said he had known defendant about a year, during which he had practised dentistry. He was one of the most skilful practitioners he knew.

Cross-examined : Defendant had not passed any of his examinations.

The Stipendiary said if the business circular did not hold defendant out to be a qualified dentist nothing could. He would have to pay the same fine as before, £10 and £3 13s. 6d. costs, or twenty-one days' imprisonment with hard labour.

In the case against E. Woods Oxborrow, Mr. MARSHALL HALL said that defendant's solicitor was unable to contest the case. He was not surprised, because he actually called himself a registered practitioner, and the word "Dentist" appeared over the door, as well as the word "registered." He was a young man, and as he had taken the wise course of admitting his offence he did not press the case.

Mr. TICKLE, on behalf of the defendant, said his client had not practised dentistry in ignorance. He was well qualified, and took the business over from a man named Robinson six years ago, who was a registered dentist, and who was responsible for the word registered.

A fine of 40s. and £1 1s. costs was imposed, with the alternative of fourteen days' hard labour, and Mr. Tickle gave an undertaking that the words complained of should be removed.

The last case was that against H. J. Barker, who also pleaded guilty. Mr. HALL said over the shop in Trafalgar Street was an expensive facia ordered by the defendant's father, who died before the bill was paid. He therefore had not gone to the expense of having it removed. It had the words "J. Barker, registered dentist." A brass plate on the door had been taken down which had on it the words "H. J. Barker, Surgeon Dentist." Defendant's father died in 1892.

Mr. HOLMES, for the defendant, repeated this statement, and said defendant was not carrying on the practice of dentistry. He was selling drugs with his mother, and they were in poor circumstances. In answer to the Stipendiary, he said Mr. Barker's father had been dead five years.

Mr. MARSHALL HALL added, however, that if the defendant had not pleaded guilty, the witnesses for the prosecution would have proved that Barker represented himself to be a qualified dentist, and told them that he always gave great satisfaction to his customers with his sets of teeth.

The STIPENDIARY imposed the same penalty as before, 40s. and £1 1s. costs, or fourteen days' hard labour.—*Brighton Gazette and Sussex Times.*

FEBRUARY 1.

Following up the prosecutions at Brighton last week, a summons was heard before the Hove magistrates on Monday against James Galloway, of 6, Goldstone Villas, for unlawfully taking and using certain additions or descriptions, namely "Dentist" and "Surgeon Dentist," implying that he was registered under the Dentists Act, 1878, or that he was specially qualified to practise dentistry, he not being registered under the said Act and not being a legally qualified medical practitioner. Mr. W. H. Blaber, solicitor (of the firm of Blaber & Watson, of 12, Great Castle Street, Oxford Circus, W.), appeared to prosecute on behalf of the dental profession in Brighton.

Defendant pleaded not guilty, saying he claimed exemption under the Act.

Mr. BLABER, in opening, explained that the proceedings were taken under the third section of the Act, which provided that no one, unless registered, should use or take the title of "dentist" or "dental practitioner," or any name or title implying that he was registered as a dentist. It was only since 1878 that the profession had been placed under legal restriction. At the time of the passing of the Act there were some 2,000 *bonâ fide* persons practising dentistry. The Act was retrospective, and provided for the registration of all persons who had been engaged in *bonâ fide* practice prior to July 22, 1878. Dentists coming into practice afterwards, however, could only qualify themselves by obtaining the degree of L.D.S. He had a copy of the Register, which he handed in, showing that the defendant's name did not appear either on the list of English or Foreign dentists. Defendant had been practising for some years in Hove, and had on a plate "Galloway, Dentist." His name and description had appeared in local directories, and he had handed one of the witnesses a circular with the words on it, "James Galloway, D.D.S., U.S.A., Surgeon Dentist," implying an American degree without specifying the college.

HENRY KEMP, private inquiry agent, whom Mr. Blaber called, said he went in company with Mr. Baldry to the defendant's house on December 24. Outside was a plate with the words "Galloway, Dentist." By the side of the door was a case of teeth, and on the top was "Dentist." He went to the door and said he wanted Mr. Galloway, dentist. Defendant answered, "That's me; will you come inside." They entered the house and Baldry said to Mr. Galloway, "I want my teeth examined." Defendant said, "Yes; there are eight want taking out, top and bottom, at the back." Witness said, "I suppose you do them well?" and defendant said, "Oh, yes." Witness represented Baldry as his nephew. Galloway said the price would be £2. He asked if he was a qualified dentist, and defendant replied that he was. Baldry said he would pay a deposit, and paid 3s., for which he obtained the receipt produced. Witness gave the name of Witley.

The CLERK: Did he start on the work, and take out the teeth? WITNESS: No. An appointment was made for a subsequent day, on which, however, they did not call.

DEFENDANT: Did I represent myself as being on the Dental Register? WITNESS: I did not ask the question.

Mr. HENRIQUES: The question was distinctly asked.

The Register, which did not contain defendant's name, was here put in.

FREDERICK ROBERT BALDRY, Lillington Road, Pimlico, private inquiry agent, corroborated the evidence of Kemp.

GEORGE WOODS, Epple Road, Fulham, private inquiry agent, deposed to another visit paid to the defendant, with Miss Alice Watts, on January 4. He corroborated as to the brass plate and the show case. He saw defendant and asked, "Are you Mr. Galloway, the dentist?" He said, "Yes, I am; step this way," Miss Watts asked him to examine her teeth, and he said one tooth wanted stopping. He said he could do it with composition for 3s. 6d. He also said to witness, "You want something done to yours, and I should be only too pleased to do them for you." He said he put in a top set for £2 10s., and if he had the lower teeth out later on it would cost him another £2 10s. Witness agreed to have the work done, and an appointment was made. Defendant gave him a circular with the words "Surgeon Dentist" after his name.

DEFENDANT read a detailed statement showing that he left Great Britain in 1881, and that in 1889 he studied at the Dental College at Kansas, attended the necessary lectures, demonstrations and other work, and was granted a diploma, which he produced for the inspection of the magistrates. In the same year in which he graduated he was registered in the State of Kansas, and was granted a certificate to practise dentistry in that State by the Board of Dental Examiners, and he produced the certificate. He had an attack of influenza and came to this country to regain his health, but in 1894 he was in correspondence for the purpose of returning to the States. Some years ago he came to England for his health, and went to the Secretary of the Medical Council with a view of placing himself in a position to temporarily practise here. The Secretary sympathised with him, but said he could do nothing unless he qualified himself by obtaining the English degree. He claimed exemption under this Section, explained that he came to London in the spring of 1895, and intimated that as soon as he could make arrangements he was going back to the States.

Mr. BLABER said the plate had been removed since the proceedings had been instituted.

The Bench were unanimously of opinion that an offence had been committed, and imposed a fine of £2 12s., including costs, and allowed £1 1s. solicitor's fee.—*Brighton Gazette and Sussex Times.*

AT SWANSEA, FEBRUARY 3.

Two cases which had been taken against Swansea practitioners by the Dental Association for representing themselves to be specially qualified to practise dentistry, came on for hearing at Swansea Police-court on Wednesday.

The defendant in the first case was Mr. Hy. J. Seline, of Grove

Place. Evidence was tendered showing that defendant was described on his plate as an artificial teeth manufacturer, and that he received customers.

The STIPENDIARY said the evidence of pretending to be registered was not clear, and Mr. Smith produced what he described as Mr. Seline's note-headings, in which the description was given and the word "surgery" mentioned.

Evidence was then demanded of the authenticity of the notepaper.

Mr. W. P. SMITH (for the prosecution) said he was unable to carry the case further, and it was dismissed.

Mr. C. H. GLASCODINE (for the defendant) asked for costs, stating that his client did not expect to be thus advertised at his own expense. Costs were granted.

In the second case Mr. Alfred L. Honeybourne, Nelson Street, was the defendant. The defendant on his door-plate described himself as "artificial teeth manufacturer," and "from the Strand, London." Evidence was given for the prosecution by Martha Jane Johns, Orange Street, and Dd. Williams, Mariner Steeet, who visited the defendant together. Defendant offered to put in two false teeth for Miss Johns for 10s. There was a serious discrepancy of a vital point in this evidence, however, Williams stating that Miss Johns said on leaving, "I suppose you are the dentist ?" to which defendant replied "Yes."

Miss JOHNS stated nothing of the kind was said.

The STIPENDIARY said the defendant's description, "artificial teeth manufacturer, from the Strand, London," certainly did not support the allegations against him. The evidence of the visit paid aroused the suspicion that defendant was doing acts of dentistry, but it was of a weak character, and did not bring him within the Act.

Mr. MEAGER called the Stipendiary's attention to the fact that there was nothing illegal in practising dentistry without being registered. The only offence was to imply that one was registered or entitled to be registered.

The STIPENDIARY: We all regard the profession of dentistry as an important one. Parliament has done everything it can to protect the public against any false practitioners, and I hope we in Swansea shall be free from any such. At present we have no evidence to show that these persons are so practising. The summons will be dismissed.—*Western Mail.*

Action for the Recovery of Fees.

AT the Shrewsbury County Court on Monday, January 18, before his Honour Judge Harris Lea, a claim was brought by Mr. Roff King, surgeon dentist, Shrewsbury, against John Jones, coal merchant, Llandrindod, for £11, alleged to be due for a set of false teeth and making additions and alterations. Mr. W. R. Crawford Clarke appeared for the plaintiff, and defendant was represented by Mr. Wallis, solicitor, Hereford.

PLAINTIFF said, in February, 1892, the defendant asked him to make him a set of artificial teeth. He consented, and the price agreed upon was £10. Plaintiff made the teeth, fitted them in the usual way, and defendant paid £5 on account about the first Friday in March. Defendant had never worn artificial teeth before, and as he experienced some little inconvenience witness altered them. Defendant had several loose teeth, and witness advised him to have them removed, but he did not care to lose them. In May, 1893, however, he lost one of the natural teeth, and he visited plaintiff at Shrewsbury, and alterations were made for which £1 was charged. Subsequently further alterations were required by the defendant which were done by witness, who also supplied a vulcanite case. A dispute arose, however, and now defendant complained that the teeth did not fit. Witness had charged for alterations and for the gold case produced, as they were rendered necessary by the change in defendant's mouth, and were not the result of bad workmanship.

The DEFENDANT was then called, and stated that he gave the teeth a fair trial, and tried to wear them in bed and at all times, but could not. He complained to plaintiff and returned the cases for alterations time after time; these were not caused by losing more teeth. Plaintiff extracted two to make them fit. Plaintiff had charged for altering his bad fit.

Mr. GRENVILLE JONES, dentist, Shrewsbury, who said he appeared for the defendant on subpœna, and against his will, deposed that he endeavoured to fit the gold case produced in defendant's mouth that day, but found that it would drop, and there was no possibility of it remaining in. He should say the defendant was justified in refusing to pay for the case. It was moderate work.

In cross-examination by Mr. CLARKE, witness said he was a licentiate of the Royal College of Surgeons, Ireland, and had received some communication from the College with reference to his advertising. Mr. Roff King, he believed, gave the information. The charge for a case such as that produced would depend upon the position of a patient. Defendant's gums were not spongy. £10 was fair, if the cases fitted.

Mr. KING, recalled, said the gold in the case produced was worth 30s.

To Mr. Wallis: The teeth were of no value. He charged £5, the difference; £3 10s. was for skill.

HIS HONOUR gave judgment for the plaintiff for £6 10s., and ordered the gold case, 30s., to be handed back to the plaintiff.—*Hereford Times.*

Action for the Recovery of Fees.

AT the Clerkenwell County Court, on January 19, before Judge Meadows-White, Messrs. Treadway and Hoare, surgeon dentists, of 208, Goswell Road, sued Edward Thomas Baxter, of 39, Mildmay Park, Balls Pond, for £5 5s., professional attendance and materials supplied.

Mr. Adams appeared for the plaintiffs.

PLAINTIFFS' claim was principally for a set of false teeth supplied to the defendant in January of last year. The teeth were returned by the defendant, who complained that they were no use to him, as they did not fit. A letter was written to him, asking that he would call and see the plaintiffs, but he took no notice of it. DEFENDANT: I want the teeth. I cannot eat. I cannot masticate, and my speech is affected. The teeth supplied by the plaintiffs, however, were of no use. They did not fit, and slipped up and down in the mouth. Mr. HOARE said that defendant's lower jaw protruded, and that made it very difficult to fit the teeth. Defendant, however, did not give the teeth a good trial, only wearing them a night before returning them. HENRY ALBERT SCHAUB, of Upper Street, having examined the teeth, said they were thoroughly well made. The JUDGE suggested some compromise should be come to, and the parties retired from the court, and subsequently returning, defendant said that the teeth had with some difficulty been fitted. They were far more comfortable than when he last tried them. The JUDGE: They look very well. They are bound not to be very comfortable at first, but you must give them a fair trial. Unfortunately, I can speak from experience. Judgment for plaintiffs, with costs.—*Islington Gazette.*

Action by an Unregistered Person for the Recovery of Fees.

BEFORE Judge Edge at Kingsbridge County Court, Messrs. Wandsworth, Fowler and Co., described as dentists, carrying on business at George Street, Plymouth, brought an action against Annie Pearce to recover £3 3s. for stopping three teeth.

Defendant paid 11s. into court, and Mr. W. Beer, solicitor, who appeared on her behalf, cross-examined the plaintiff as to his qualifications to describe himself as a dentist.

PLAINTIFF said his occupation was that of a dentist, and he had passed through the full curriculum of a medical student. HIS HONOUR asked if he was registered. PLAINTIFF said his practice was not only carried on by registered but by qualified men. HIS HONOUR believed the dentists had a charter. Mr. BEER: That is so. A person acting as a dentist cannot recover unless he is registered as a legally qualified dentist. Mr. BEER to plaintiff: Are you a registered dentist? PLAINTIFF: I am a dentist; I am not a shoeblack. Mr. BEER said an unqualified person practising as a dentist was liable to a penalty of £20. PLAINTIFF: I am a full curriculum student.

HIS HONOUR, having referred to the Dentists Act and to the Dental Register, said a medical man, no matter how high his qualification, could not recover his fees unless he was registered. It was the same with a dentist. There would be a verdict for defendant, with costs.

On the application of Mr. BEER, His Honour directed that the 11s. which the defendant had paid into court before she instructed him should be refunded to her.—*Western Morning News.*

Claim Against a Dentist.

HEARD at Ipswich County Court, on Wednesday, January 20, before his Honour Judge Eardley Wilmot.

Herbert Day, blacksmith, Providence Cottage, Wellington Street, and Bell Lane, Stoke, brought an action against Thomas Miller, dentist, Norwich Road, Ipswich, for £15. The claim was in respect of medical attendance and loss of business consequent upon injuries received to plaintiff's tongue during the extraction of a tooth by defendant's assistant.

Mr. W. Marshall appeared for the plaintiff, and Mr. Arthur S. Leighton (of Messrs. Leighton and Aldous) for defendant. A jury was empanelled to hear the case.

The PLAINTIFF'S story was that he visited Mr. Miller's on November 26 for the purpose of having a tooth drawn. Mr. Miller, jun., undertook to draw the tooth, and in doing so hurt his tongue, causing it to bleed freely. At the time witness told Mr. Miller that he had cut his tongue to pieces, but he replied that it was nothing. Some powder was placed on the wound, but it still continued bleeding, and he found the tongue was cut completely through. He visited the shop again and saw both defendant and his son, and, in spite of more powder being placed in the mouth, it still bled. He subsequently saw Dr. G. Vincent, who plugged the wound and stayed the bleeding for a time. He was under Dr. Vincent's care for a fortnight, and a week after the hæmorrhage had stopped, the wound burst again. That resulted when he spoke for the first time. He could eat nothing but liquid food, and received instructions from the doctor not to talk. He was unable to pursue his business, and was obliged to pay another man named, Edward Nichols, 16s. a week, and his father an extra 10s. a week. He suffered much pain during the time he was under the doctor's treatment. In the early part of December he saw the defendant, who said he could not help little accidents of that character.

Replying to Mr. Leighton, the plaintiff said Mr. Miller did not take the tooth out with the forceps, but with a penknife, after he was unsucessful in getting it out with the forceps.

Dr. GEORGE VINCENT said the tongue had evidently been transfixed by some instrument which had passed through the tongue. He was of opinion that a penknife was used to force the tooth, and it was shot through the tongue. He was of opinion that the injury was caused through carelessness. After some difficulty he stopped the hæmorrhage, but it commenced again a week later. The plaintiff was unfit to go to work.

Mr. LEIGHTON said the defendant had practised as a chemist and dentist in the town for many years, and had always given every care and attention to his patients. Mr. Miller was not doing the dental work when plaintiff called, and his son, who had assisted him for over ten years, attended to the plaintiff. Day was in an excited and nervous state through long-standing toothache, and struggled when the tooth was being removed. The forceps was the only instrument used, and it was possible to have caused a wound of the character described by plaintiff. Mr. Miller's son would deny having used a penknife. No complaint of any character had been made against the defendant, and he (Mr. Leighton) suggested if any injury was done it was caused through the contributory negligence of the plaintiff.

Defendant's son, Mr. EDWIN FREDERICK MILLER, bore out the statement of his solicitor, and added that when he examined the tongue it was not perforated, and there was only a superficial scratch.

The JUDGE observed that defendant was bound to exercise reasonable care, but if the jury considered it was a pure accident the defendant was entitled to the verdict.

The JURY, after putting several questions to the doctor, adopted that course, and a verdict was entered for defendant.—*East Anglian Daily Times.*

Action for Malpraxis.

CAVENDISH *v.* THE AMERICAN DENTAL INSTITUTE.

IN this action, before the Lord Chief Justice and a special jury, Mr. Richard Cotton Cavendish claimed damages from the American Dental Institute on the ground of the alleged negligence of one of their operators in attending on him and putting in certain artificial teeth. The defendants denied that there had been any negligence on the part of their operator.

Mr. Bigham, Q.C., and Mr. J. Eldon Bankes appeared for the plaintiff; and Mr. Dickens, Q.C., and Mr. Hohler were counsel for the defendants.

Mr. BANKES, in opening the case for the plaintiff, said that Mr. Cavendish had for some years suffered from his teeth, and in January, 1894, he consulted the defendants, the American Dental Institute. He went to the South Kensington branch in Thurloe Square, where he saw a Dr. M'Cormick, who examined him and told him that he could very soon put him all right at the charge of £5 a tooth. The plaintiff thereupon went every day to the establishment at Thurloe Square for a week, and was supplied with practically a new set of teeth in his upper jaw. The chief operation was the crowning of dead teeth, which was done by placing a crown of gold over the dead tooth. This was done and Mr. Cavendish's mouth became unbearably sore. He went down to Brighton, and when there two of these new teeth mysteriously disappeared. He thereupon went to the Brighton branch of the American Dental Institute, but there they told him that as he had been attended at the South Kensington branch he must go back there. So he went back and saw Dr. M'Cormick again, who said that the fault had not been his, but that the work of his workmen had been bad. From this time Mr. Cavendish suffered terribly from abscesses in the mouth, and his health was seriously affected. He had then to consult his medical adviser, Dr. Glanville, who found him suffering from indigestion and sleeplessness. Subsequently Mr. Cavendish went to another dentist, Dr. Boswell, who took out the plate which had been put in by Dr. M'Cormick, and substituted a fresh one and readjusted the teeth, and from that time Mr. Cavendish suffered no more pain or discomfort. The fact was that Dr. M'Cormick had done his work disgracefully, and Dr. Boswell did it thoroughly well. Mr. Cavendish had been charged sixty guineas by Dr. M'Cormick, and that money had been completely thrown away. Mr. Bankes went on to tell the jury the defects which were found in Mr. Cavendish's teeth, and the mischief which had ensued. He should call a number of distinguished dental surgeons, and they would say that Mr. Cavendish's teeth had been subjected to improper treatment.

Mr. Richard Cotton Cavendish said he resided at 4, Down Street, Piccadilly, and had been in the Army. In January, 1894, he went to the Thurloe Square Branch of the defendant company. At that time his teeth were disfigured and broken off in front. He saw Dr. M'Cormick, who said that he must put in new teeth on the top of the old ones, and he told him he would never suffer from toothache again. He first broke off two of the front teeth, and witness attended every day for a week, and a plate or bridge was made and fixed in his mouth. Witness paid £60, and then a few days afterwards went down to Brighton. While there, on waking up one morning, he discovered three front teeth were missing. The plate was fastened into his mouth so that it could not be taken out. Witness at once went to the Brighton Branch of the American Dental Institute, and they advised him to go back to Dr. M'Cormick. That was about a fortnight after the teeth had been put in. Dr. M'Cormick removed the plate and accounted for what had happened by saying he could not get his work properly done downstairs. Witness had the plate refixed and then his mouth began to get sore again, and he could not eat or masticate his food. Dr. M'Cormick lanced his mouth and subsequently told him to go to his doctor. The teeth never remained firm. In the summer of 1894 the plate broke in two in the plaintiff's mouth, and it caused him great pain. He went to Dr. M'Cormick, who again put this down to the bad workmanship downstairs. Dr. M'Cormick mended the old plate and put it back again. After this, however, witness suffered the same inconvenience he had suffered before. His health became bad, and he could not take any solid food. In consequence he had to go to see his doctor, and subsequently he went to Dr. Boswell, who was also an American dentist, and he removed the plate, which gave him great relief. This was in March, 1896, and a fresh plate was put in by Dr. Boswell which witness still kept in. He paid Dr. Boswell 60 guineas, and had suffered no pain or inconvenience since. Exactly the same kind of plate was put in by Dr. Boswell.

Cross-examined by Mr. DICKENS: Witness had been to several dentists during the last few years. His wife did not tell Dr. M'Cormick that he was in the habit of gnashing his teeth. When the plate broke in two Dr. M'Cormick put right what he complained of, and did not send in another account. He did not go to any other dentist till 1896. He denied that he was subject to fits.

Dr. GLANVILLE said he had attended the plaintiff for the last eighteen years, and he was a man of fairly good health. In January, 1894, he complained of his teeth, and said he had been to the Dental Institute and had a plate put in. Witness prescribed a wash for his mouth. Subsequently he suffered from indigestion and gumboils, and witness had to lance his mouth. Witness sent him back to his dentist, and in October, 1895, witness found him suffering very much from his mouth, and his general health was bad owing to his teeth. There were some indications in Mr. Cavendish's state on one occasion that he might have had a fit, but during the whole time he had known him he had never been aware of his having had one. Since he had been attended by Dr. Boswell he had been in perfect health.

Cross-examined: Witness certainly did not tell Dr. M'Cormick that the plaintiff was subject to fits, or that he clenched his teeth.

By the LORD CHIEF JUSTICE: He found no further symptom to support the one which he observed, and which might have indicated that plaintiff had had a fit.

Cross-examination continued: The conclusion he drew was that the symptom he observed was caused by the irritation of the teeth.

Mr. TOMES, M.R.C.S., F.R.S., a consulting dentist, of Cavendish Square, said he had examined the plaintiff's mouth and the plate which had been originally put in. He was of opinion it was a bad piece of work and the teeth had been put in in a slovenly way. The witness described how, in his opinion, each tooth ought to have been treated. He was of opinion that the proper measures were not taken. The plate was too thin, and the workmanship bad or ill-judged, considering the strain that would be brought to bear on it.

Cross-examined: Bridge work was done by English dentists, but not so largely as in America. If the operator did not see or was not told of the gumboils he would not have detected that the tooth was dead. He did not observe on the plate any signs of unusual friction, but if a man gnashed his teeth it would be more liable to accident.

Mr. SMALE, another dentist of Cavendish Square, also gave his opinion that the bridge was not a well made one. He agreed that if the teeth were dead at the time of the operation they should have been drilled and the roots filled up.

Cross-examined: If the teeth were alive at the time Dr. M'Cormick operated he did all that was right. He thought, in the first instance, all that was necessary might have been done.

Dr. PACKE, a doctor of the Medical Faculty of New York, practising in Harley Street, said he had examined the bridge work and considered it a very bad piece of work, because it was too slight to stand the ordinary strains which would naturally come on it. It caused a pressure on the front teeth, and he thought a condition of inflammation would be set up, and the front teeth might be broken off. The price charged, £5 a tooth, ought to have commanded a good job.

Cross-examined: His opinion was that the cap ought to have been four times as thick as it was, in spite of the fact that plaintiff had worn it from 1894 to 1896.

Mr. DICKENS then opened the case for the defendants, and pointed out that, though after the way Dr. Boswell had acted he was not surprised his friend had not called him, still, it was a remarkable thing that he wrote disapproving of this action, and offering information to the defendants which might be of value. The Dental Institute had previously had litigation with Dr. Boswell, and had obtained an injunction against him. Boswell was not a witness whom the defendants could call, but it certainly was remarkable that he should have written this letter. The evidence which had been given by the dental surgeons in this case negatived the suggestion that there had been any inferior work. Counsel contended that the accident to this gentleman's teeth was caused by his habit of grinding them. He also pointed out that the particulars of negligence alleged were that the teeth were badly made and did not fit, that the gold used was of inferior quality, and that there were holes in the plate. Of these defects there was no evidence, except as to the latter point, and it appeared the holes had been made subsequently to the plate having been put in.

Dr. M'CORMICK was called, and in reply to Mr. Hohler, said he was practising at Thurloe Square as a dentist, assistant to the American Dental Institute. He was a doctor of dental surgery of the University of New York, and had been in practice six years. He was consulted by the plaintiff, and advised bridge work and other steps to be taken. At the time witness examined his teeth the two which had been referred to were alive. Witness related the various times he had capped different teeth, and he fixed the bridge on January 26, and it fitted the plaintiff s mouth. Witness was unable to use thicker gold on account of the closeness of the bite. In his opinion the thickness used was sufficient. Witness saw plaintiff again on March 2, when he said that, while at Brighton, he had found two front teeth gone when he woke in the morning, and he supposed he had swallowed them. Plaintiff further said that he was a living wonder, and that he had been seen by all the most eminent doctors in Europe, and none of them understood his case. Witness on this occasion made new crowns for several teeth, and took out the bridge to remake it. The bridge was very much crushed, and in one place was bitten right through the gold. He saw nothing in the two teeth which led him to believe that they were dead, and the plaintiff did not ever complain of having suffered from gumboils at any of the interviews. The only complaint he once made was that everything tasted sweet to him. He saw Dr. Glanville in 1895, who said he thought witness had done wonders for the plaintiff, who was subject to fits. When plaintiff first came to witness his teeth were broken in such a way as could only have been caused by an accident or grinding of the teeth. There were no holes in the teeth which he put in except in one.

Cross-examined by Mr. BANKES: Witness had been in sole charge at the Kensington branch in the absence of any director. It did not occur to witness that the plaintiff's mouth was a class of mouth which required an extra strong bridge. He understood that when Dr. Boswell put in his bridge two of the teeth were dead teeth, and therefore he could use thicker gold. When witness operated those teeth were alive. He had never lanced any gumboils for Mr. Cavendish, and that gentleman made no complaint about having lost the teeth, but merely informed witness of the fact. Although he considered the bridge had been subjected to unfair treatment he was ready to replace it without any further charge. The bridge was, in fact, broken in two. His assistant (Miss Taylor) was present at most of the interviews with the plaintiff. Witness did not recollect ever having told the plaintiff that it was no use his coming complaining to him, but that he ought to go and see a doctor.

Miss TAYLOR, Dr. M'Cormick's assistant, said that his account of what had passed at the interviews with the plaintiff when witness was present was correct.

ARTHUR STILL, mechanical dentist, in the employ of the defendants, said that he made the bridge work in question, and had previously made others of the same thickness.

Cross-examined : Generally the bridges were made of thicker gold.

Dr. Ruby Clifford, managing director of the defendant company, and member of the Dental Institute in New York, said he had had great experience of bridge work. He considered this bridge to be a very good piece of work. If the teeth were dead one could put more gold in than if they were alive.

Cross-examined : The defendant's business practically belonged to himself and his family. It would have been possible to kill the living tooth, but it would be wrong practice to do it.

By the Lord Chief Justice : Witness could give no explanation why in the plaintiff's case the treatment had not proved successful.

Mr. Isidore Clifford, a licentiate of dental surgery of the Royal College of Surgeons, and a director of the defendant company, also gave evidence agreeing with that of his brother, the last witness.

Further evidence was given by Dr. Meadows, a licentiate of dental surgery, of Toronto and Philadelphia, and this closed the defendant's case.

The Court then adjourned.

On Thursday, January 21, the plaintiff, Mr. Cavendish, was recalled, and, in reply to Mr. Bankes, denied that he had told Dr. M'Cormick, as that gentleman had alleged in his evidence, that he was a living wonder, or that he had been seen by all the most eminent doctors in Europe.

By Mr. Dickens, Q.C : Witness had seen various doctors and dentists.

By the Lord Chief Justice : Witness had served six years in the Army in India.

This closed the evidence, and, counsel on either side having addressed the jury,

The Lord Chief Justice summed up, and, after reading through the important parts of the evidence which had been given and having carefully reviewed it, told the jury that the plaintiff could only make out his case if he satisfied them that the defendants had been wanting in some duty to him by failing to use reasonable skill and care in the measures they took for his treatment.

In the result the jury found a verdict for the plaintiff, and assessed the damages at £150.

Judgment was given accordingly.—*The Times.*

To Prevent Discolouration of Teeth from Soldering.

Dr. Lomborg, in the *Stomatological Gazette*, remarks that the change of colour and shade after soldering can be prevented by painting between the backing and the tooth with whiting dissolved in alcohol. He generally employs platinum as a backing, flowing 18 carat-gold over it.

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of this Society was held on the 1st inst., Mr. R. H. WOODHOUSE, the President, being in the chair. There was a full attendance of members.

At the commencement of the proceedings, the PRESIDENT referred to the recent elevation of Sir Joseph Lister to the peerage, and stated that he had done more for antiseptic surgery than almost any other man in the country. The dental profession had participated to such an enormous extent in the laws of antiseptic precautions which Sir Joseph Lister had defined, that it had been felt it would only be becoming on the part of the members of the Society to send him some congratulations on the honour conferred upon him.

The President formally moved the proposition, which was carried by acclamation.

The minutes of the previous meeting having been read and confirmed, the following candidates were elected resident members of the Society :—Russell Barrett, L.R.C.P., M.R.C.S., L.D.S., 6, Chandos Street, Cavendish Square, W. ; Charles W. Glassington, M.R.C.S., L.D.S.Edin., 6, Pelham Crescent, South Kensington ; Joseph Lewin Payne, L.D.S.Eng., 17, Railway Approach, London Bridge, S.E. ; Alick Condell Strand, M.R.C.S.Eng., L.R.C.P.Lond., L.D.S.Eng., Helenslea, Child's Hill, N.W.

The following gentlemen were elected non-resident members of the Society :—Wilfred William Gabell, L.D.S.Eng., Chiltern Villa, Station Road, New Barnet ; A. T. Hilder, L.D.S.Eng., 83, Edmund Street, Birmingham ; John George Wallis, L.D.S.I. and Glas., 33, Albion Street, Hull.

The LIBRARIAN announced the receipt of the Pharmaceutical Society's Calendar for 1897, and the usual exchanges.

The CURATOR stated that as a result of his appeal at the last meeting, he had received several interesting specimens of old bone plates.

CASUAL COMMUNICATIONS.

Mr. H. W. MESSENGER communicated some notes on "A Case of Double Hare-lip, with Cleft of the Hard and Soft Palates."

A communication was also read by Mr. G. H. BOWDEN on "A Case of Deafness following Bilateral Dislocation after Extraction of Molar Teeth."

Mr. W. A. MAGGS said he had never seen or heard of a similar case, but he was led to the conclusion that it was *post hoc non propter hoc*, and Mr. Cumberbatch seemed to have the same idea, that it might have been due to traumatic causes. The fact that some amount of hearing had returned made the future of the case more hopeful.

Mr. MONTAGU F. HOPSON asked if Mr. Bowden had subsequently examined the sockets of the teeth, and whether there was any septic trouble connected with the sockets of any of the molar teeth which had been removed.

Mr. H. BALDWIN read a communication on "Cement and Amalgam Fillings."*

Mr. ROBBINS considered that by the method of lining adopted by Mr. Baldwin he had overcome the difficulty of possible shrinkage. He was sorry to find that Mr. Baldwin entirely disapproved of the mixture of oxy-phosphate and amalgam. The honeycombed appearance, he thought, was largely due to the use of an excess of osteo or oxy-phosphate over the amount of amalgam.

Mr. A. E. BAKER related a case in which he had had to remove a large compound filling on the posterior surface of a right maxillary bicuspid, the filling having been inserted about eight months ago. The filling proved difficult to remove, and indicated that with the mixture suggested, a most reliable filling could be obtained.

Mr. GEO. CUNNINGHAM considered that one of the great faults of the cervical margin, in the majority of cases, was due to faulty manipulation. Owing to the syrupy character of phosphate cement, oxy-chloride had an advantage over it, and oxy-chloride was in addition a germicide, while phosphate cement was not. He suggested that Mr. Baldwin should add to the excellence of his filling by giving it a germicidal influence.

Mr. RUSHTON advocated the use of the phosphate as thickly as possible ; it saved time and allowed the phosphate to be made into little pellets, and so rendered it easier to manipulate.

Mr. HUMBY said oxy-phosphate would not hold a contracting amalgam. It contracted itself out of the oxy-phosphate, no matter how strong it was or how well united to the walls of the teeth. Another important point was with regard to the surplus phosphate one sometimes got on the margin of the cavity. If there were a very minute quantity there it really was a benefit rather than a detriment, as it assisted in preventing staining of the enamel.

Mr. BADCOCK and Mr. HERN also spoke on the subject of the paper, and Mr. MATHESON asked whether the phosphate prevented the flow of the amalgam so absolutely as to make the amalgam cling to the margins of the cavity as closely as a properly adapted gold filling.

Mr. E. LLOYD-WILLIAMS said he had tried Mr. Baldwin's method, but had given it up on account of the contraction of the amalgam.

In reply, Mr. BALDWIN said he had used the method in all cases where he filled with amalgam, even very small cavities. He endorsed Mr. Baker's remarks with regard to the difficulty of removing the fillings, especially when Harvard's cement was used. He objected to the use of oxy-chloride, as suggested by Mr. Cunningham, on account of its extreme caustic nature, especially in large sensitive cavities. Mr. Humby had said that some amalgams shrank and crawled away from the cement, but he had not found that to be the case. He quite agreed with Mr. Humby that a very thin layer of cement was not a very great disadvantage, though personally he liked the actual edge to be perfectly free from cement. He could answer Mr. Matheson's question in the affirmative, but he still used gold for æsthetic reasons, unless the cavities were very large. In answer to Mr. Lloyd-Williams, he (Mr. Baldwin) thought that if a filling stood perfectly for one year it might be concluded that it would stand for a good many more years.

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* A full account of this communication will be published in our March issue.

The PRESIDENT then thanked the authors for the papers they had brought forward, and adjourned the Society to Monday, March 1.

The Edinburgh Dental Hospital and School.

THE fifth Annual General Meeting of the Incorporated Edinburgh Dental Hospital and School took place on January 29, at 31, Chambers Street, Mr. W. Bowman Macleod presiding.

Mr. THOMAS WALLACE, the Treasurer, reported that the total ordinary revenue was £778 9s. 7d., and the expenditure £542 11s. 2d., leaving a balance of £235 10s. 5d. The special contributions were £207 1s., making £442 19s. 5d. of surplus funds. At the beginning of the year the debts of the institution amounted in all to £3,392 18s. During the year there had been paid off £225 of mortgages, and the balance due to the bank had been reduced from £194 1s. 7d. to £4 4s. 6d., so that the debts at the end of the year came to £2,949 18s. 8d.

The CHAIRMAN spoke of the satisfactory character of the financial statement, which, he said, showed that they had been making progress, and establishing themselves on a firmer basis.

Mr. STUART, the Hon. Secretary, gave in the following statistics:—Permanent stoppings, 3,943; dressings and temporary treatment, 1,039; dentures supplied and repaired, 200—in all, 5,182. The total extraction cases numbered 10,064, of which 5,046 were under anæsthetics. The total preservation cases amounted to 5,182, against 4,771 last year, which showed that the real purpose of the institution was being more and more appreciated by the poorer classes. The growing popularity of the school seemed to be well maintained, there being forty-eight students on the roll.

On the motion of Mr. Hepburn, seconded by Mr. Macgregor, the Report was adopted.

The following gentlemen were elected as directors :—Mr. John Rutherford, W.S., and Mr. James Gardner ; Dr. James Jamieson, F.R.C.S.E., being re-elected.

The following appointments were made to the staff:—*Interim* appointment of Mr. D. Robertson Campbell, L.D.S., confirmed ; Mr. F. Page, L.D.S., promoted to the senior staff on the resignation of Mr. James Mackintosh, and Mr. H. H. Chapman, L.D.S., appointed to the assistant staff, *vice* Mr. Page. Dr. David A. Farquharson was appointed to the chloroformist staff on the resignation of his brother, Dr. J. M. Farquharson.

The Liverpool Dental Hospital.

THE thirty-sixth Annual General Meeting of the Liverpool Dental Hospital was held on January 29, at the Town Hall, Liverpool. The Lord Mayor presided.

The Annual Report stated that the total number of patients admitted since the formation of the hospital amounted to 381,802. During the past year the number of patients treated at the hospital was 23,514, and of operations 35,722, which was an increase as compared with the previous year ; the increase in respect of operations relating to conservative dentistry and extractions under anæsthetics being 2,524. The patients' voluntary contributions amounted during the year to £132 3s. 9d. The hospital is still encumbered with an indebtedness to the bank amounting to £622 in respect of the alterations and extensions, and there is also a mortgage on the premises of £450. In addition, a balance of £46 14s. 11d. is due to the Hon. Treasurer on working account.

The LORD MAYOR moved and Mr. W. H. QUINBY seconded the adoption of the Report.

Mr. G. H. BALL moved a vote of thanks to the officials for their services during the year, and remarked that the hospital was the most important dental school out of London.

The REV. R. CUFFE seconded, and the motion was cordially carried.

Mr. BRAKELL moved, and Mr. C. BIRCHALL seconded, a vote of thanks to the consulting surgeons and staff, and the officers for the coming year were then elected.

A vote of thanks to the Lord Mayor terminated the proceedings.

Brighton Dental Hospital.

THE Annual General Meeting of the governors and subscribers of the Brighton, Hove, and Preston Dental Hospital, was held at 116, Queen's Road, Brighton, on January 29. The Committee of Management stated that the number of subscribers had increased, and the deficiency in the accounts had been wiped off. The number of cases treated during the year was 3,492, against 3,053 in 1895, and the expenditure upon anæsthetics, instruments, &c., had increased from £13 14s. 4d. to £27 4s. 4d. The accounts showed a credit balance of 6s. 3d., the receipts having been £201 12s. 3d., including subscriptions amounting to £80. Sir Joseph Ewart moved the adoption of the Report, which was agreed to. The various officials were then elected and the meeting terminated.

Hospital Report and Case in Practice.

Case of Death from Swallowing a Tooth Plate.

We are indebted to Dr. W. Spencer Badger for the following notes of a case of death from swallowing an artificial denture.

L. N., aged 21, came to the Royal Infirmary, Liverpool, on Saturday morning, January 2, at 2 a.m., stating he had swallowed his tooth plate (upper jaw). Patient was a healthy-looking man. There was nothing to be felt externally, but he was suffering considerable pain which he referred to the upper end of the sternum. An œsophageal bougie was passed down the pharynx to ascertain its position; an obstruction was encountered about the level of the cricoid cartilage. An attempt was then made, without success, to extract it with forceps. Another attempt, this time under an anæsthetic, was made later in the day, also without success. Patient was not suffering from dyspnœa nor greatly from discomfort at this time. The following morning, Sunday, patient was seen by Mr. Thelwall Thomas, who made an exploration with an olive pointed œsophageal sound. The distance of the foreign body was estimated at about nine and a half inches from the teeth. At three o'clock the same afternoon, therefore, patient was again anæsthetised, and an attempt made to raise the plate by means of a coin catcher. The plate was drawn upwards one inch, but then appeared to be firmly caught by the hook attached to the plate. Œsophagotomy was then at once performed on the left side of the neck, and the hook was easily felt, having almost perforated the œsophageal wall. The plate was then extracted without difficulty, and the œsophageal wound sutured. The operation was completed under half an hour.

Patient same evening developed bronchitis, respiration being very embarrassed. Following day, bronchitis worse, patient slightly delirious; wound quite healthy, temperature normal. Stimulant given by mouth, nutrient enemata per rectum. Patient became rapidly worse, and died at 11.30. p.m.

Abstracts and Translations.

On the Advisability of Inserting Dentures Immediately after Extraction in Certain Cases.*

By E. P. COLLETT, L.D.S.Eng.

Before discussing the exact subject implied in the above title we must first make some preliminary observations on the steps which lead up to it.

The presence of useless teeth and stumps, even apart from the frequent association of abscesses and inflammations of the gum, leads to such a general catarrhal condition of the whole buccal cavity, tongue, and pharynx, that relief has to be sought either by remedial treatment or extraction in order that something like a sanitary condition may be obtained.

I am sure there are times when we all are somewhat puzzled to decide on the spur of the moment whether to cut off or to extract broken front teeth.

Take the case of a typical young girl of 18, with, say, the four upper incisors black and broken, and with abscesses that would take weeks to cure, even if curable. Let us say, for the sake of argument, that this young person cannot afford to pay one an adequate fee for crowning these roots properly, so nothing remains but to insert a denture.

The next thing one has to decide is, "Am I to extract or am I to cut off these horrible teeth?" Wherever it is possible to gain the patient's confidence sufficiently to do what you like with the mouth, I say, and say unhesitatingly, *extract*, and extract at once, for it is quite certain that some day these roots, if left in, will give trouble, and have ultimately to come out. I must take this opportunity to protest against the iniquitous and increasing custom, especially amongst the lower class advertising dentists, of leaving foul roots to discharge pus into the mouth, pollute the breath, and cause endless troubles. How often, after clearing a mouth completely of all stumps and bad teeth, do we not find an immediate improvement in the patient's general health, probably due to the improved sanitary condition.

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* Read before the Manchester Odontological Society.

But to return to the case under discussion. We have decided to extract the four teeth, and then the main problem of this discussion arises. How soon can we insert the new teeth, for our patient does not wish to be seen by her friends and admirers in the edentulous condition. I answer, take your impression at once, make and try in your plate as soon as possible, whether it be of gold or vulcanite, and plant the new incisors well up the sockets, a quarter or even half an inch up under the gum, taking care that the plate goes into the mouth well within twenty-four hours of the extractions, and allow the gum to heal up around the artificial teeth. Tell the patient that the plate is to be worn day and night, and only to be removed for purposes of cleansing; by these means you gain a double object: your patient gets used to the foreign body in her mouth much quicker than she would do if continually taking the plate in and out, and you also prevent any unsightly line of union between the gums and the new artificial teeth. The *shrinkage* also of the gums seems much more gradual and is less in degree, for though the shrinkage of the alveolus may be unaffected, yet the tab of tissue folding over in front of the teeth makes this absorption less apparent; for if the artificial teeth are pressed sufficiently high into the sockets, even after two or three years, there is no *space* between the gum and the teeth, though naturally the gum is flatter than formerly. There is another advantage, in that you maintain the exact arch that nature originally assigned to the particular mouth, and in after years it may be useful, when the other teeth come to be lost, to know the relative position of the incisors in the mouth.

There is another class of cases where this immediate insertion of teeth is most useful, viz.: in those mouths where the incisors are long, rapidly loosening, and protruding. How often we have patients with a mouth of this character, who come to us for advice, and here again, I say, extract and take your impressions at once. In these cases it is better to select teeth that are narrower than the natural ones, and while planted quite half an inch up the sockets, can have their tips inclined much further in than the teeth just extracted, a slight space being left between each tooth. Here the improvement in appearance is very great. When the denture can be inserted the same day as the extraction, the results seem best of all, and experience shows that the gums are not so sore as when we wait till the day following, for then the process of healing by granulation has commenced.

In advocating the above method of immediate insertion of dentures, I do not claim any originality whatever, but am simply recording the way I have dealt with certain cases for the last seven years or so. I shall be very glad to hear what other speakers have to say on this subject.—*British Journal of Dental Science.*

Fatal Acute Poisoning by Cocaine.

Dr. O. H. Garland, of Leith, relates the following case, of some medico-legal interest owing to the few fatal cases of the kind recorded: "About 3.30 p.m., on Monday, October 7, 1896, at the request of the authorities, I made a superficial examination of the body of a young woman who had at about 7 a.m. swallowed, for the relief of toothache, upward of two fluidrachms (eight cubic centimetres) of a 10 per cent. solution of the hydrochlorate of cocaine—the equivalent of twelve to fifteen grains (0·78 to 1 gramme) of the alkaloid. She had almost immediately afterwards suffered from vertigo, followed by epileptiform convulsions, nine in number, occurring in somewhat quick succession, and died within forty minutes. She appeared to be about 17 years of age, and the body was well nourished. The trunk still contained a considerable degree of warmth, but the extremities were cold, *rigor mortis* being well developed in all of them. The face, lips, and anterior surface of the body were very pallid and wax-like, while on the dependent portions well-marked cutaneous hypostasis was present. The expression of countenance was placid. The pupils were dilated, and the conjunctivæ were not injected. The teeth were firmly clenched. On the following day (Tuesday), as further instructed, I made a *post-mortem* examination. The external appearances remained as described. Frothy mucus, slightly blood-stained, was freely exuding from the right nostril. The brain was anæmic, but otherwise normal. The meninges were deeply congested. The heart was healthy in substance, and all the valves were found to be competent. The right ventricle contained a small quantity of dark-coloured fluid blood; the left ventricle was quite empty. Both ventricular walls were relaxed. The lungs were too much congested throughout, and everywhere highly crepitant. A considerable amount of frothy mucus, in part blood-stained, was present in the bronchi. The liver, spleen, and kidneys were hyperæmic, but otherwise normal. The stomach and contents were removed, and preserved intact for expert analysis; consequently there was no opportunity afforded for inspection of the mucous surface of that organ. The bladder contained from three to four ounces of urine. All the other organs were normal." The case, according to the author, lends support to the view of Mannheim, that fifteen grains (one gramme) of cocaine constituted a fatal dose. In the present state of our knowledge it is, however, practically impossible to state the smallest lethal dose, seeing that a dose of two-thirds grain (0·04 gramme) has caused death, and so minute a dose as 0·01 grain (0·00065 gramme) has given rise to symptoms threatening life.—*Lancet.*

Zona following Extraction of Teeth.

By GEORGE PERNET, L.R.C.P.Lond., M.R.C.S.Eng.

The patient, aged 25 to 30, consulted me on July 30, 1896, for an eruption on her body and right arm. She gave the following history. On July 20, six teeth were extracted under gas, namely, the four lower incisors, the right lower canine, and a left molar. On July 26 she felt uncomfortable about the right side of the back, the inner side of the right arm, the right axilla, and the right mamma. This was succeeded by tingling pain, which every day increased in severity, and was accompanied by occasional shooting under the right arm.

The Eruption.—Zoster, with the following distribution. In front: two clusters of vesicles just above the right mamma; one of these in the nipple line, the other between that line and the axilla. Behind: three clusters near the middle line and two near the axilla. Right axilla: A number of vesicles; in some of the groups coalescence had occurred; several of the vesicles were rather larger than usual. Inner side of right arm: a few groups of vesicles. When seen again on August 3, there were fresh clusters of vesicles lower down on the inner and upper flexor surface of the arm. Fresh groups had also appeared on the back; the vesicles of the older ones had coalesced. The patient complained that the pain had been very severe, and this was borne out by her appearance. From this date recovery was rapid.

An interesting feature of the case was the fact that about a year before twelve teeth were removed under ether, when the patient suffered very much from shock, loss of blood, and, in her opinion, the effects of the anæsthetic.

Comparing my rough sketches of the distribution with Dr. H. Head's diagrams in the last edition of "Quain's Anatomy," vol. iii., part ii., p. 346, &c., I find that the eruption approximately corresponded in front to D_4; behind to D_3, D_4, and D_5; and on the arm to D_3.—*British Medical Journal*, Jan. 30, 1897.

Case in Practice.

The following interesting case is reported by I. A. Freeman in the *Dental Digest*:—

A patient, male, aged 35, presented himself for consultation. His trouble consisted in, what purported to be from the history gained, an abscessed superior lateral incisor, which from time to time became sore. This was followed by a tumour in the dome of the oral cavity, which continued to increase during periods of varied duration. At times it would disappear, or nearly so, to be followed by the same phenomena, after intervals of three or four months, longer or shorter.

At the time he came under my treatment the tumour was about the size of a large chestnut, and situated about midway between the line of the hard palate and the incisors, filling this region, being fully three-quarters of an inch in diameter. Upon examination, fluctuation was distinctly manifested, but pulsation could not be detected. Reasoning from this that the tumour was the result of the dead lateral tooth, it was decided to open the sac and evacuate the pus. Proceeding to do this with a narrow curved bistoury, an incision the width of the blade was made. The flow of blood which followed this was so great that it caused a doubt to arise as to the correctness of the diagnosis, and the knife was withdrawn without ripping open the tumour, as was first intended, no pus following the removal. The gush of blood revealed the true nature of the tumour to be that of an aneurism, requiring very different treatment from that of an abscess. It was well that the sac was not laid open, for the hæmorrhage was very profuse and difficult to control, with the small incision made. Had the walls of the sac been relieved of the tension caused by the pressure upon them from within, greater difficulty would have resulted.

The treatment in this instance, after using a solution of persulphate of iron, which did not prove a permanent coagulant, was to wipe the entire inner surface of the sac with equal parts of the tincture of iodine and a 95 per cent. solution of carbolic acid. This proved a good and sufficient coagulant, which arrested the hæmorrhage permanently. A cure resulted, as there has not been a recurrence of the trouble since the treatment, a period of nearly eighteen months.

A word of caution is not out of place here with regard to diagnosis in these cases. Introducing an aspirating needle, and drawing away some of the fluid contained in the sac, would usually give true conditions, even if pulsations could not be detected, as was the condition in this case.

Miscellanea.

Extraction of Teeth and Facial Paralysis.

The Lancet (Nov. 7) contains a brief digest of a paper published in the *Wiener Klinische Rundschau* by Dr. Frankl. Hochwart, in which he gives an account of six cases which he has observed. "In the first case the patient had had an attack of facial paralysis seven years before, and the second attack, which affected the same side, came on the day after the extraction of a tooth also on that side. In the next three cases complete facial paralysis came on a few days after extraction of teeth and without any other complication, and in these cases the paralysis was on the same side as the extraction. So it was in the sixth case, while in the fifth it was on the opposite side. Dr. Hochwart does not regard the actual extraction as the direct cause of the paralysis, but rather the condition of inflammation which renders extraction necessary or, at least, desirable ; and he points out the fact that injury to a tooth may cause paralysis in anyone with a predisposition, as was the case in a young woman who suffered from a third attack of facial paralysis after the accidental breaking of an incisor. He also thinks that inflammation about the teeth may cause paralysis even if extraction has not been done."

Odonto-Chirurgical Society of Scotland.

The third general meeting of the session 1896-97 was held on Thursday, January 14, at 7.30 p.m., Mr. J. Stewart Durward, President, in the chair. Messrs. Sewill Simmons, L.D.S.Edin., Archibald R. Maclean, L.D.S.Edin., and J. Morris Stewart, L.D.S.Edin., were elected members of the Society. Dr. Guy related the notes of "A Case of an Artificial Denture impacted in the Gullet, operated on by Mr. Caird."

The fourth general meeting of session 1896-97 was held on Thursday, February 11, when Mr. J. Stewart Durward presided. The meeting was held in conjunction with the Scottish Branch of the British Dental Association. Dr. Guy read a paper entitled "The Future of Dental Education," while a casual communication was brought forward by Mr. T. A. Mackintosh, entitled "Examples of Vulcanite Work finished by means of Polishing Plates."

The Edinburgh Royal Infirmary.

At the annual meeting of the Court of Contributors of the Edinburgh Royal Infirmary held last month, the following rule was proposed :—

Dental Surgeons: Rule 1, *Number and Qualification.*—"There shall be one or more dental surgeons attached to the Infirmary who, in addition to such medical or surgical qualifications which they may possess, must be Licentiates in Dental Surgery." Mr. Bowman MacLeod submitted the following amendment:—Rule 1 shall read: "There shall be one or more dental surgeons attached to the Infirmary, who must be Licentiates in Dental Surgery." The amendment was unanimously agreed to.

The Silver Wedding of a Past President of the Association.

We note with great pleasure the following announcement:

SILVER WEDDING.
BROWNE-MASON—PENFOLD—Jan. 24th, 1872, at Arundel Parish Church, by the Rev. G. F. A. Hart, Vicar of the parish, John T. Browne-Mason, of 6, Southernhay, Exeter, to Jessie, eldest daughter of Oliver Penfold.

Mr. J. T. Browne-Mason has fulfilled many posts of honour in connection with the profession, not the least being that of President to our own Association. We feel certain that it is the wish of all that he may enjoy many more years of married life.

National Dental Hospital.

Mrs. Howard Mummery has kindly consented to distribute the prizes at this School in the early part of next month.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

The History of Dentistry.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I have just read with keen pleasure the article on page 21 of the January number, "Reminiscences of Fifty-four Years in the Dental Profession," and hope that others who, like Mr. Woodhouse, knew the men who long ago helped to make our profession what it now is, will place on record such matters as he has so interestingly presented.

How little is known of dental history—how little of the men who, step by step, prepared the way for the marvellous advance we have been privileged to enjoy. How much we owe to Berdmore, Fox, Fuller, Murphy, Snell, Clark, Bell, and especially to Waite, who so early and so earnestly urged an advance in dental education, and to Nasmyth, whose careful researches did so much to stimulate that line of thought which in our day has borne such abundant fruit.

Permit me to ask, have not the types masked the latter name by making it "Naysmith," and also to suggest that the indispensable dental syringe is figured large as life, fig. 1, planch 8, page 239, vol. 1, "Le Chirurgien Dentiste," par Pierre Fauchard, Paris, 1728, an antique volume, a work well worth a careful reading, and one that will prove a surprise to those who imagine that the science of dentistry is a mere bantling born a generation or two ago.

900, *Spruce Street*, Yours respectfully,
Philadelphia, Pa. WILLIAM H. TRUEMAN.
January 28, 1897.

The Management of the Journal.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—May I be allowed the favour of a small space in your Journal to call the attention of its readers to what seems to me a somewhat incongruous proceeding on the part of the management of the Journal? and that is, the facilities given and help extended to the regular advertising dentist, by permitting his advertisements to appear in its columns (see December 15, 1896), and therefore helping and encouraging him to practise in a manner which the editorial part of the Journal regularly and indignantly, and very justly, condemns. If this sort of thing is to be allowed, I, for one, shall feel called upon to withdraw my subscription to an Association which can permit anything so anomalous to occur. I may say I write this after consultation with the majority of honourable practitioners in this town.

Liverpool. I am, sir, yours, &c.,
January 28, 1897. J. P. ROBERTS.

Professional Humbug.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—The subject I am about to touch upon is of enormous magnitude and importance, both to the profession and to the public, but I will endeavour to elucidate my views as briefly as possible. In the first place I must infer that the practice of dentistry is either science or no science—or in other words, science or humbug. The enormous variety of qualifications (I mean natural or acquired qualities, not necessarily diplomas) which are required to make up the successful all-round dentist, leaves much to be desired in the main body of the profession. I naturally assume that the general public, or, in other words, the private patients who visit us individually, are ignorant of the laws of dental science, and therefore unable to judge of the correctness of our advice and treatment, and discriminate between it and the specious subterfuge adduced for personal convenience. Of course I admit that opposite courses are admissible under different circumstances; say, for instance, the excising or filing down of stumps instead of extraction, but when loose and suppurating I say advising them to remain is unprofessional treatment. Bearing in mind my opening remarks and the limited space of your Journal I will go to the point at once, and illustrate what I consider professional humbug as opposed to dental science: (1) Filling the six-year-old, or first permanent molar when the remainder of the teeth are perfect, or nearly so, and the mouth crowded, or likewise treating other teeth; (2) Extracting sound teeth simply because a patient points out that neuralgia, &c., is caused by them; (3) Refusing to treat irregularities, and advising the patient to "trust to nature" and its inherent ugliness. I refer more particularly to protrusion, &c., of upper or lower incisors; (4) Making excuses and telling fairy tales when poor suffering patients want stumps that have been broken off, removed; (5) Extracting teeth wholesale which may be easily filled; (6) Using spiral springs for young people with good suction palates (to cover defective work). These and innumerable other distinctly unscientific and unprofessional actions are often covered by what, in the medical profession, would be called a good bedside manner, but in the dental, I think, you know my definition.

I have not mentioned the artistic or mechanical side of the subject —artificial teeth, ghastly white; no regard for articulation, horizontal or perpendicular; teeth ground flat as pancakes; wires unfiled and ununfinished, and beautifully adapted to destroy the remaining living organs.

In the face of these facts, which are patent to all obsevers, is it not time that something should be done to protect or enlighten the public? The present state may be ameliorated by a better understanding among dentists, so that they may consult each other on special points, for there is no getting away from the fact that an all-round dentist is a *rara avis*.

I strongly suggest in the interest of the public and of the profession, that specialists (which there are) in dentistry should consult each other, and thus harmonise and admit established facts as our medical brethren do. If these suggestions only cause reflection, no harm at least can result therefrom. My remarks, I may add, refer to fully qualified men. In conclusion, I may venture to think, that if honesty of practice and principle and a better feeling and understanding existed, we should not be so troubled with the quacks who now baffle the laws of the country. I am, dear sir,

65, *Cowbridge Road, Cardiff.* Yours truly,
February 4, 1897. THOS. QUINLAN, L.D.S.I.

[Owing to pressure on our space we are compelled to hold over some interesting correspondence.—ED., *J. B. D. A.*]

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 3. MARCH 15, 1897. Vol. XVIII.

Recent Prosecutions.

The variety of our legal intelligence in the February and March numbers of our Journal will very likely be received by our readers according to their preconceived notions regarding the desirability or otherwise of prosecutions under the Dentists Act. The cases, which have been conducted with judicious care by the executive of the British Dental Association, have paved the way for what may be called private effort, and this is now extending itself into groups of practitioners formed under titles of local dental associations. The difference between the working of private prosecutions, or prosecutions by local associations, and by those undertaken by the executive of the British Dental Association, consists chiefly in that the cases of the latter have been carried out with a view to establish the power and scope of the Dentists Act, and for the advantage of the profession generally, while the former have been taken either with a view to individual protection, or with an eye to the advantage of some particular locality. Those local bodies have carried out a number of prosecutions with a certain amount of success chequered by frequent failures, which step in and render it rather difficult to strike a balance altogether in favour of local effort.

It may be seen on attentive perusal of the various cases undertaken by local combinations, that no advance has been made in the nature of the convictions, and that in the Swansea cases, where intentionally or unintentionally an effort was made in that direction, the defendants made good their right to manufacture artificial teeth, a right which, so far as we are aware, has never been denied by those who have been responsible for the British Dental Association prosecutions. The nature of the evidence that was offered in the Swansea cases shows that those who were responsible for the prosecutions quite failed to realise the true scope and nature of the penal clauses of the Dentists Act. The obvious mistake was made of attempting to run these cases on parallel lines with previous convictions when the circumstances and description were totally different. This Association has always refused to prosecute in such cases without further evidence. In both instances the most ordinary evidence was wanting, and while the Stipendiary fully recognised the importance of the profession of dentistry and the efforts of Parliament to protect the public, he could not in one case convict for want of evidence, and in another the case fell through because of the non-identification of a sheet of note-paper on which the word " surgery " appeared.

The difficulty of utilising advertisements and pamphlets and such-like things as evidence, has been frequently insisted upon by the officials of our Association, and as frequently disbelieved and even derided by those of our members who thought otherwise. Perhaps this slight instance may serve to show that the caution hitherto used by our executive in this matter was not so unreasonable as was once supposed.

The Brighton efforts were in the first instance unfortunate in the absence of the professional gentlemen engaged to conduct them in Court, but in the subsequent cases conducted, not by a substitute but by him personally, the results were more satisfactory than in the first two instances, and convictions were secured and penalties imposed accordingly.

The solicitors for the British Dental Association have now gone through a long apprenticeship in getting up dental prosecutions, and we think that it would be good economy and a sound policy and a precaution against failure if they had been first consulted in those cases, rather than that they should have been entirely confided to gentlemen having no experience in the working of the Dentists Act.

The irrepressible title of Doctor, *minus* M.D., but with all its tinsel effrontery has been much in vogue in some of those cases; and it is a pity that the true meaning of the title and the alleged or assumed value of some American diplomas have been allowed to pass unchallenged. In one instance the defendant was allowed to leave the court with the testimony of a medical man in his favour entirely unimpeached and thereby accepted by the prosecution. We dentists all know the true value of such testimony. It is not enough for us that cases should be won on mere points of law. The side lights which may every now and then be cast on the methods of quackery should be used promptly and with effect. The public should be disabused of the idea that the culprit is being made the victim of a harsh and one-sided law, and that they, the public, suffer by being deprived of his valuable services.

The two Swansea cases reported in this issue go far to confirm our remarks. They seem to have been got up on the strength of the successes at Cardiff, and under a not uncommon impression that what seems an easy victory is easy of achievement. If these abortive cases do no other good they should in a measure serve to dissipate this idea, but it is a pity that experience should have to be bought at such a heavy cost. It is possible to "pay too dear for your whistle," and it will take some time and labour to fetch up the leeward drift we have made on this miscarrying tide. The friendly guidance of our tried and experienced solicitors might have saved a great deal of this loss of opportunity, and we may add reputation, for the public are not careful to discriminate between local committees and the profession at large.

We report several actions regarding fees and practice, and on the whole we may feel satisfied with the results, but the case tried in the Kingsbridge County Court seems of greater interest than any other. The return of money paid into court was a complete vindication of the Dentists Act and of the validity of Dental Registration.

A Modelling Composition.

A useful modelling composition can, according to Dr. David (*Journal de Pharmacie et de Chimie*) be made from the following :—

Stearin	25 grammes.
Copal, semi-soft	25 ,,
Talcum, powdered	50 ,,
Carmine	0·5 ,,
Oil, rose geranium	6 drops.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Scottish Branch.

THE spring meeting of the Branch was held at the Dental Hospital, Edinburgh, on Thursday, February 11, at 7.45 p.m., conjointly with a meeting of the Odonto-Chirurgical Society.

The minutes having been approved, Messrs. W. D. Anderson, L.R.C.P. and S.Edin., L.D.S.Glas. (Glasgow), Thomas Evans Johnston, L.D.S.Edin. (St. Andrews) A. R. Maclean, L.D.S.Edin. (Edinburgh), J. Morris Stewart, L.D.S.Edin. (Edinburgh), were balloted for and unanimously elected Members of the Branch.

Mr. GUY, F.R.C.S.Edin., L.D.S.Edin., then read a paper on "The Future of Dental Education."*

Mr. T. A. MACINTOSH, L.D.S.Edin. (Edinburgh) showed examples of the use of polishing plates in vulcanite work.

Votes of thanks having been passed to Messrs. Guy and Macintosh, it was decided to adjourn the meeting until Friday, March 19, at 2.45 p.m., in the Lecture Room of the Dental Hospital, Edinburgh, when the discussion on Mr. Guy's paper will take place.

Previously to the meeting, tea and coffee were served to Members of the Branch, on the invitation of the President, Mr. W. Bowman Macleod.

Central Counties Branch.

A MEETING of the Central Counties Branch took place at the Dental Hospital, Newhall Street, Birmingham, on Thursday, February 11.

The Council met at 6 o'clock, when in addition to the routine work, the following gentlemen were nominated for membership of the British Dental Association and of the Central Counties Branch:—Messrs. William Percy Pearson, L.D.S.Glas., Albert Ernest Apperson, L.D.S.Glas., and G. F. Cale Matthews, L.D.S.Eng.

The following gentlemen were elected members of the Central Counties Branch:—Messrs. J. H. Bennett, L.D.S.Eng. (Stafford), and F. W. Sievers (Worcester), the latter being also elected a member of the parent Association. The Council having adjourned, the general meeting of the members of the Branch took place, among those present being Messrs. J. T. Craig (Leicester), W. G. Owen (Wolverhampton), Harry Owen (Kidderminster), F. Howard, J. Mountford, Breward Neale, Ernest Parrott, F. Richards, F. E. Huxley, A. E. Donagan, A. E. Apperson, G. F. Cale Matthews, Arnold Steynor, Hilditch Matthews, and A. T. Hilder (Birmingham). The nominations and elections were communicated to the meeting, and Mr. Howard gave a short detailed description of his manner of treating chronic alveolar abscess by opening through the alveolus to the apex of the root and removing the sac. Mr. Howard uses a hand instrument of a broad spear-shape, which, by a rotatory motion, gouges out the alveolus. Though he has done it without an anæsthetic, he considers it too painful, and thinks the administration of nitrous oxide advisable. The opening is made fairly large, and healing induced from the bottom, the wound being packed with antiseptic gauze. The operation has been very successful in his hands, and the healing everything to be desired. This communication produced a lively discussion, in which Messrs. Breward Neale, Richards, Parrott, Craig and Huxley took part.

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* To be published in a future issue.

Mr. CALE MATTHEWS read a short paper, embodying a few ideas suggested by the new curriculum of the English College, on which subject Messrs. Huxley, Richards, Howard and Craig spoke.

Mr. DONAGAN related a most interesting case in which the patient was under treatment by his medical man for ear trouble. The mastoid cells had been scraped out, and pus evacuated. Pain, however, continued, accompanied with much tenderness of the teeth, which on examination proved to be quite sound; but there was a considerable amount of periostitis. Slight scaling was done, and an astringent mouth wash given. This, however, had no effect, severe neuralgic pains still remaining. The patient then developed symptoms of drowsiness, although the pulse and respiration continued normal and there were no other symptoms of brain trouble. An operation was performed, which revealed the fact of a large collection of pus in the spheno-temporal lobe of the brain. This had evidently affected the fifth pair of nerves, hence the irritation in the periosteum of the teeth. The patient made a complete and rapid recovery.

A collection in aid of the Benevolent Fund amounted to 14s. 6d.

The next meeting will be held on Thursday, April 1, at the Dental Hospital, at which the details of the annual meeting will be discussed, and Mr. Knott's resolution *re* administration of anæsthetics for unregistered dentists will be again brought under notice. Mr. J. D. Whittles will give a paper on "Our Teeth and their Osseous Environments," with limelight illustrations.

83, *Edmund Street*, A. T. HILDER, *Hon. Sec.*
Birmingham.

Midland Branch.

THE winter meeting of the members of this Branch was held at the Dental Hospital, Mount Pleasant, Liverpool, on February 20, which was attended by eighty-one members and friends. The proceedings were of an unusually interesting character. At 10 o'clock the Council met for the transaction of business, and at 11 o'clock the members assembled to witness the demonstrations as follows :—

"New Gas Apparatus : Anæsthesia produced by the Combination of Nitrous Oxide and Oxygen," by E. HOUGHTON, L.D.S., and C. B. DALBY, L.D.S.

"Cataphoresis in Dental Surgery," by J. S. DICKIN, L.D.S.

"Cohesive Gold Filling," by J. P. HEADRIDGE, B.Sc.Lond., L.D.S. Eng., D.D.S.Penn.

"Fusing Mineral Gum in an Electric Furnace, and Swaging Strained Metal Plates on Plaster Models," by J. TINDAL, L.D.S.

"A Simple Method of Fixing a Gold Crown ; Fixing a Downie Pivot, also a Simple Gold Crown," by R. H. BATES, L.D.S.

A "Microscopical Demonstration" by Professor PAUL, F.R.C.S., Lecturer on Dental Anatomy and Histology, and JOSEPH A. WOODS, L.D.S., Demonstrator in Dental Anatomy and Histology, University College, Liverpool.

At 1 p.m. the members adjourned to the Adelphi Hotel, where luncheon was provided by the Liverpool members, after which the usual collection was made on behalf of the Dental Benevolent Fund, the sum of £7 6s. being contributed.

At 2 p.m. the members re-assembled in the Chemical Theatre of the Liverpool University, for the purpose of discussing the demonstrations, Mr. F. Harrison, M.R.C.S., L.D.S., President of the Branch, in the chair.

Each demonstrator described the work done by him, and explained the pros and cons of the methods adopted on the demonstration.

Votes of thanks were passed to the Demonstrators for their services, to the Liverpool Members for their hospitality, to the Dean and Staff of the Dental Hospital, and the Governors of the University, for placing the rooms and conveniences at the disposal of the meeting.

Twenty-two new members were elected to the branch.

ANNUAL MEETING.

PRELIMINARY ANNOUNCEMENT.

The Annual Meeting of the members of this branch will be held at the Municipal Technical School, Rochdale, on May 13, 14, and 15, when there will be an attractive programme.

Members desirous of introducing casual communications are requested to communicate with the Hon. Sec. without delay.

Rochdale. I. RENSHAW, *Hon. Sec.*

Southern Counties Branch.

THE next meeting will be held at the Technical Schools, York Place, Brighton, on April 10, 1897.

DEMONSTRATIONS.

Continuous Gum Work, using "Petroleum Blast" and "Electric Furnaces," by Mr. J. H. GARTRELL.

Continuous Gum Work, using "Benzoline Blast Furnace," by Mr. HARRY ROSE.

Messrs. C. Ash & Sons, and the Dental Manufacturing Co., have kindly consented to give exhibits of the various furnaces and their appliances.

Dinner at Messrs. Booth's restaurant, East Street (tickets, 4s. 6d. each). Gentlemen intending to be present at the dinner are requested to notify the Hon. Sec. by April 6.

FRANK V. RICHARDSON,
1, *Sillwood Road, Brighton.* *Hon. Sec.*

Western Counties Branch.

THE spring meeting of the above Branch will be held at Ross, Herefordshire, on Saturday, May 1. The Hon. Sec. will be glad to hear from members who wish to bring forward any business or any subject of interest.

Original Communications.

Exostosis.

BY DOUGLAS E. CAUSH, L.D.S.I.

IN introducing this subject of exostosis, it is our desire to draw your attention more especially to those changes that are observed in the examination of teeth by the aid of the microscope; and, to make ourselves clear, it may be as well, at this early period of our paper, to state the method adopted in preparing the teeth for examination. If the tooth to be examined has been out of the mouth for some time, it is at once cut into sections by the aid of a fret saw, commencing at the apex of the root; each section being made as thin as possible, and as it is cut off, placed in a watch glass containing water (each watch glass is numbered so that the section retains its individual number until mounted). The method employed in preparing the sections is that suggested by Mr. T. Charters White.

If, on the other hand, the tooth has been recently extracted, we place it into an alcoholic solution of rubin, and allow it to remain for some weeks, so that the coloured solution may penetrate into the tubuli, and any other spaces that are to be found in the tooth; it is then cut and prepared in the same manner as the dry sections, and by this method very beautiful, as well as very perfect, sections, showing tubuli, &c., may be obtained.

After the sections are thin enough for our purpose of examination, we stain them by what we call the surface method. It is done as follows. Into a watch glass, containing an aqueous solution of rubin, the section is placed for about two minutes, it is then taken out, and the surface moisture dried from the section, which is then mounted in hardened Canada balsam. By adopting this method, the section becomes stained in the following manner: all soft tissue wherever found is stained a deep red colour; the cementum is stained red; the dentine does not take up the stain at all; and thus we have a perfect differentiation of the tissues. Having described the method of preparing our slides, we will now direct your attention to some of the changes that can be observed. To better understand the changes it is well to keep clearly in mind the normal condition of the tissues. The first change that takes place in the development of exostosis is that of the thickening of the alveolar-dental membrane. This is usually caused by some slight irritation; it may be from a filling, or alteration of the articulation, produced either by decay or the loss of other teeth, or from some similar cause. In all cases the result is the same, namely, an increase in the blood supply to the part; this, in its turn, causes increased activity in the cells of the membrane.

Should we at any time have the opportunity of microscopically examining such a tooth, we shall find the membrane much more coloured than usual, as well as increased in thickness, owing to the cells in the portion of the membrane attached to the cementum having become more and more active. These cells continuously break up into new cells, and these new cells divide and sub-divide until the membrane has a much larger number of cells than is found in its normal condition; the natural result being that a certain amount of pressure is brought to bear upon the cementum at this point. As this pressure increases from the development of the new cells, many of the cells change their character from that of an ordinary nucleated cell to that of a cementoclast, or giant cell, having the power of absorbing the cementum at the point of contact. If the blood supply becomes normal at this stage no further change takes place; but should the irritation be kept up, the giant cells continue their activity. Should the condition become chronic, the giant cells thus formed will continue to absorb the cementum, until the whole of it is absorbed away, after which the giant cells pass into the granular layer of the dentine, and there continue their work, until a portion, or the whole of this layer, is absorbed. This absorption takes place in an irregular manner, owing to the difference in the density of the tissue, this difference of density being caused by the more or less perfect calcification of the dentine; on the osteoclasts having penetrated to the denser portion of the tissue the absorption ceases, and the cells themselves again change their character from cementoclasts to cementoblasts, or cementum-depositing cells, and begin their functions of depositing cementum into the spaces previously produced by the absorption. It is not at all an unusual thing to find a number of these cells retaining their soft structure, surrounded by cementum, as if some of the cementoclasts had been slow to change their character, thus leaving portions of soft tissue in the newly-deposited cementum. The new tissue is usually deposited in layers, differing from the original cemental tissue in that it contains a large number of lacunæ and canaliculi, these frequently occupying the position previously occupied by the original layer of cementum. This layer of cementum continues to be deposited as long as the blood brings to the cells material for the development of the tissue. The amount deposited varies much; it may be but a very thin layer, or it may be continuously deposited, until it is many times as thick as the original layer of cementum.

That the development of this tissue is not always continuous may be proved by the manifestation of a number of lines in the section; in these lines we find there are few or no lacunæ, and where the calcification of the new tissue is evidently much more perfect; thus showing that more perfect calcification has evidently taken place during the time of rest from development, this time of rest being caused by the cessation of the irritation to the alveolar-dental membrane, and, as a consequence, slow, but more perfect calcification of the cementum; where this has taken place, it usually leaves a structureless layer of tissue. When these lines exist they are as a rule most irregularly placed, varying very much in their distance one from another, hence the more continuous the deposition the fewer the lines. It is not an unusual thing to find in some sections, after these periods of rest, that a portion of the new tissue has been absorbed away, leaving semilunar markings, which are filled later on with new tissue.

When the development of this tissue is rapid we usually find a number of large lacunæ with their canaliculi anastomosing with the canaliculi of the surrounding lacunæ. If, on the other hand, the deposition of this tissue has been slow, the lacunæ are much smaller and fewer in number, with, as a rule, smaller canaliculi; under such circumstances the lacunæ may be isolated and surrounded by tissue, structureless in character; or should the deposition of any one portion of the tissue be more slow than that of the surrounding tissue, the same thing occurs, we get not only more perfect calcification at that point, but an irregular outline of the tissue is produced. It is not at all an unusual thing to find a number of large lacunæ formed immediately after one of these marks produced by the time of rest, the lacunæ gradually becoming less in number until there is another period of rest, so that on examining the section we are able to define the way in which the new tissue has been deposited. These changes may continue for months or even years, and leave behind them indelible markings in the tooth thus affected.

Instead of all, or any of these changes taking place, the point of absorption may be very much restricted in area, or the absorption may commence at that part of the root where the calcification of the original tissue has been imperfect, and as a result of this we have a deep yet restricted area of absorption taking place. This goes on until it reaches the granular layer of the dentine, and here, frequently at that point where the absorption has reached the dentine, is a portion of softened or uncalcified tissue; this is rapidly dissolved away by the cementoclasts, and thus a deeper and somewhat semi-lunar-shaped cavity is produced. As soon as the dense tissue opposes the cementoclasts they cease their functions, and after a time a new tissue, cemental in character, is produced, until the whole of the space is filled with cementum.

The great difference between this and the absorption, as seen in the earlier stages of exostosis, is the definite line of demarcation produced by the absorption, both in the cementum and dentine, as contrasted with the irregular line of absorption seen in general exostosis. Mr George Henry of Hastings, was, I believe, the first to draw attention to this alteration of the tissues, and gave to it the name of inostosis.

So far as our microscopic slides show, this form of absorption takes place nearer the neck of the tooth than exostosis usually commences; and, we think, this may be one explanation of the cause of this restricted area of absorption, all the surrounding tissue being more dense near the neck than at or near the apex of the root; it is, therefore, only when the inflammation of the alveolar-dental membrane occurs over an imperfectly calcified portion of the tooth that this absorption takes place. We have in our collection a number of slides showing that this form of absorption sometimes takes place after there has been a certain amount of general exostosis, the absorption passing through the deposited cemental tissue into the dentine, and in this space another layer of cementum is deposited. In some cases we have no doubt that this absorption is the result of an unusually severe attack of periostitis. At the same time we must be careful not to confound these markings with those produced by the more acute form of inflammation and suppuration known as alveolar abscess.

Wherever there is a chronic abscess near or pressing upon the roots of the tooth, we have absorption, and this absorption is, as a rule, more general in character, and covers a larger area than in those cases known as inostosis. In these cases it is not at all unusual to find, not only the cementum absorbed away, but the absorption may have gone into the dentine, and in some extreme cases we have found the absorption has not ceased until the pulp canal has not only been reached, but even a portion of that has been absorbed away. Again, in some of these cases, nature appears to have tried to produce a remedy by depositing in these depressions new tissue cemental in character.

We also find in some cases the canaliculi of the lacunæ anastomising with some of the finer branches of the tubuli, and thus forming a network of minute canals from the cementum to the pulp canal.

We have also found in many cases where there has been a large deposition of new tissue, that this tissue has enclosed within it a number of canals, passing in different directions; these canals usually have a lining membrane, and to all appearances are blood vessels of the alveolus and membrane.

There is also to be found at times canals of quite another character, passing directly from the pulp canal, at right or acute angles to the canal, through the dentine, into the cementum. In this case the contents of the canals are similar in character to the pulp itself; in some cases we have seen these canals enlarged, and a layer of cementum of varying thickness lining the canal.

These last canals lead us to the pulp, and we wish now for a short time to draw your attention to certain changes we have found in the dentine forming the pulp canal. It is just possible that these changes take place in teeth that are not exostosed, but as our examination has been principally of exostosed teeth, we should be glad if others could give any information as to whether similar changes have taken place in the teeth that are not exostosed.

If we examine a tooth with an inflamed pulp, we shall probably find that the following changes have taken place in the pulp:—In the layer of odontoblast cells that form the connecting link between the pulp proper and the dentine, we find, at that point where the inflammation is most acute, the individual odontoblast cell has been altered in character and appearance; there is an absence of the usual processes, especially those which pass into the dentine, and instead of these we have a cell somewhat oval in shape, and frequently the cells are increased in number, and apparently the connection between the dentine and these cells have ceased. This change may be restricted in area; if the inflammation of the pulp has been either very acute or chronic, the cells themselves increase rapidly by cell division, and a certain amount of pressure is produced upon the dentine. The result of the cutting off of the supply of nourishment from the restricted area is to produce those transparent zones so frequently seen in microscopic sections of teeth where there are apparently no tubuli radiating from that portion of the pulp canal in which these changes have taken place. This may spread until the whole of the dentine between the pulp canal and the cementum in this restricted area is apparently structureless. We believe that this change is brought about by the more perfect calcification of this portion of the dentine. Should, however, the pulp continue inflamed, we find the original odontoblastic layer becoming thickened, and after a time, a number of giant cells are developed in the thickened layer ; these cells pressing upon the dentine cause a certain amount of absorption of the latter, and this absorption may be restricted to a single point, or it may spread laterally so that two or three canals in the roots of molar teeth may be united into one irregular canal. There appears to be no restriction as to the way in which the absorption will spread from the canals, so varied is it that almost every section shows an alteration in the conformation of the canal.

After a time another change takes place in the character of the cells forming the outer layer of the inflamed pulp ; and, instead of osteoclasts, we have cells capable of depositing a tissue containing lacunæ and canaliculi exactly in appearance like the *cemental* tissue found on the outside of the dentine ; this tissue is quite distinct in character from the surrounding dentine, and the line of demarcation between the two is usually very pronounced. This new tissue may vary very much in quantity from that of a very thin layer to a mass large enough to almost fill the pulp canal and the spaces excavated. That this tissue is not secondary dentine, we think, will be clearly demonstrated by comparing the slides that have just passed before you and the next two, which show secondary dentine in both transverse and longitudinal sections.

You will notice in the former slides the new tissue fills up *semi-lunar* spaces where the cut ends of the tubuli of the dentine end abruptly ; in the secondary dentine there are no *semi-lunar* markings, and the tubuli of the secondary tissue are more or less connected with the tubuli of the original dentine ; in the secondary dentine the tissue is always added *directly* to the old tissue without any previous absorption, and, as a consequence, gradually from the commencement of the deposit, decreases the size of the canal; this is reversed in the case of the new tissue, as the deposition is always preceded by absorption, and usually contains lacunæ and canaliculi with *no* tubuli.

That exostosis is not of recent date, I have had the opportunity of proving lately, thanks to the kindness of Charles Dawson, Esq., F.G.S., F.S.A., he having placed at my disposal, for the purpose of making a microscopic examination, two molar teeth, found by him in the chalk *dêbris* within the artificially excavated caverns at Hayes Down, Lavant. With the teeth were associated some flint implements of the later Neolithic type; the age of the teeth probably is *not later* than 2,000 years, and perhaps much earlier. In both of them we found exostosis, and in one of them certainly excavations both on the outside of the cementum and in the pulp canal. We have also found that these, or similar changes, have taken *place* in the horse, with even a greater intensity than in those of the human race.

DISCUSSION.

The CHAIRMAN: We are all very pleased to hear Mr. Caush's paper. It is one of those special papers on a subject he has made his own, and devoted a great deal of time to, and perhaps it does not present very much ground for discussion. Mr. Caush has placed himself in the position of knowing so very much more about the subject of exostosis in its microscopical character than any of the rest of us know, that it is rather an impertinence to make any comment on what he has said. The point of greatest interest to my mind is the very great frequency of alternating actions of absorption and re-deposition.

Mr. HENRY: I rise to thank Mr. Caush personally for his very interesting paper. Naturally it was to me very interesting, because he so clearly elucidated the process of exostosis, which I had the pleasure of bringing forward some years ago. I am delighted with the exquisite clearness of the illustrations. There is one point I should like to refer to. Mr. Caush, in one of his earlier slides, seemed to imply that external inflammation excited action upon the internal lacunæ, causing enlargement and alteration of structure. That I do not quite follow. Of course the alternating changes, from absorption and filling up of those spaces, we can realise fully. I did not think before that external inflammation could excite any change on the internal structures unless it was preceded by absorption.

Mr. Hopewell Smith: I should like to add my word of praise to Mr. Caush for his excellent paper. He has worked at the subject for a very long time, and knows more about it than anybody else. I would like to ask Mr. Caush his opinion on the formation of inostosis, and if the structure is similar to that of exostosis—if the lacunæ and canaliculi are of the same character, or of a different character? Is inostosis also a constant accompaniment of exostosis, or is it a kind of secondary dentine formation?

Mr. Caush, in reply, said: With regard to inostosis, I think the reason we get inostosis is, that exostosis commences in most cases—with the exception of nodular exostosis—very near the apex of the tooth, where the tissues are, comparatively speaking, soft—where the granular layer is very much larger. The nearer we get to the neck the more dense the tissue. Therefore, when there is inflammation at or near the apex of the tooth, we get a general absorption followed by exostosis; if, instead of this, the inflammation is some distance from the apex, and over an improperly calcified portion of the cementum and dentine, its action will be restricted to the softened portion of the tissue. This deep but restricted excavation will be afterwards filled with new tissue, and is called inostosis. I have not been able to distinguish any difference in the microscopic structure of exostosis and inostosis in our slides; the inostosis has not usually taken place near the apex of the tooth.

The Morrison Crowning System.*

By WILLIAM M. GABRIEL, M.R.C.S. & L.D.S.Eng.

The interest shown in this system when I demonstrated it in August, and the quite inadequate, and in some respects, incorrect instructions I obtained with the apparatus, lead me to believe that a few hints which experience has taught me may be of service to those who, like myself, have adopted the Morrison system.

Any method which will enable the dental surgeon to reduce the time spent in the operating room, and which will allow him to delegate the greater part of the making of the crown to a skilled mechanic should prove a boon to the busy practioner, provided accuracy of adaptation is not thereby sacrificed. That the Morrison system to a very great extent fulfils these conditions will, I think, be acknowledged by those who read carefully the following directions for bicuspid and molar crowns. For incisors and canines I generally now use the Büttner system.

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* Demonstrated at the Annual General Meeting, 1896.

(1) The first and most important step is the preparation of the root. To enter into this in detail would be too much like flogging a dead horse. I will merely say, therefore, that if, as a result of caries, the root is anywhere much below the gum level, the absent portion should be restored with amalgam (Damman's I prefer), smooth tapering sides greatly facilitating the making of the crown (*vide* Evans' "Crown and Bridge Work," second edition, p. 42). The method I find best for measuring the root is to twist up a piece of soft iron wire (annealed binding wire) with the Lennox wire twister, made by Ash's; this, on account of its flexible portion, is preferable I think to the S.S.W. dentimeter.

(2) The twisted up wire is now removed. If there is any difficulty in so doing, it is a proof that the root is not properly tapered and requires re-shaping. Supposing the loop removed, it is next made circular by pressing it on to a pointed circular instrument resembling a miniature marling-spike. Such an instrument the Dental Manufacturing Company have recently made for me.

(3) A mandrel from the crowning set is now selected which will pass freely through the now circular loop of bending wire, and the selected mandrel can be given to the mechanic with instructions to strike up a ferrule to it.

(4) I find that anything but pure gold is unsuitable for this apparatus. Having then procured a circular disc of fine gold (Stubb's plate and wire gauge, size 8) ($1\frac{1}{4}$ inch in diameter for molars and 1 inch for bicuspids), lay it over the hole (No. 1 for molars and Nos. 2 or 3 for bicuspids). Set the punch bearing the corresponding number in the centre of the disc *pointed* end down, and gently tap with a *horn* mallet till the disc has been secured somewhat in position, then drive it slowly through the hole with the punch flat end down. Drive it successively through the holes until the selected mandrel is reached. It is of great importance to keep the cap constantly free from overplus. This can easily be trimmed away with a pair of short strong nail scissors. It is also most important to anneal the gold frequently, at least once after each hole. Should there be any difficulty in removing the gold ferrule

from a mandrel it should be gently tapped all round near the top with a small copper hammer.

(5) The operator will now have supplied to him from the workroom a ferrule a good deal longer than the height of the required crown. With a pair of compasses or callipers measure the distance between the gum margin and the line where the crowns of the adjoining teeth begin to turn to form the cusps. Should the gum on the palatal side of the root be lower than on the buccal side allowance must be made for this. Having decided on the height, then, of the ferrule, this is slipped on to the mandrel on which it was made, and cut off with a fret saw to the proper length.

(6) The ferrule is now annealed (which can be perfectly well done in a spirit flame) and slipped on to the end of the natural crown and gently pressed upwards (the soft fine gold easily expanding to the form of the root) until the edge meets the margin of the gum. If necessary, the ferrule can be slightly enlarged by placing it on the point of a small anvil and hammering the edge all round with a small steel hammer. The ferrule should now be removed from the root and the edge bevelled with a small file of the finest cut made—anything else will tear fine gold, not file it. The ferrule is now replaced on the root and again pressed up just under the margin of the gum all round; it may be necessary to trim the gold at some point of its circumference with scissors.

(7) A line is now marked on the gold with a pointed excavator preferably all round, showing the line of the gum.

(8) The ferrule is now removed and trimmed with a small file to a line parallel with this, so that the edge may be well under the gum without unduly injuring the peridental membrane, but at the same time the ferrule must have a good hold on the stump. The ferrule may have to be removed and replaced a good many times to secure such a result. Cocaine or ethyl-chloride may be used should this procedure cause an undue amount of pain.

(9) The ferrule being quite free from contact with the lower teeth, a mark is made on it so as to distinguish the lingual aspect, and carefully removed. The edge under the gum should be well burnished to the root wherever practicable, and a rough model taken in bees'-wax of the root and adjoining teeth, and cast to show the size of the crown

required to fill the space. The shape of the intaglio dies on the brass striking-up plate can be tried by softening the ends of sticks of paraffin wax and pressing them into the dies. The relief impressions on these sticks can now be compared with the space to be filled, and the most appropriate die selected. The impressions will show also which is the lingual side of the die.

(10) The crown and the selected die may now be given to the mechanic with instructions to strike the articulating surface. This is done by first taking care that the ferrule is properly in place in the die, *i.e.*, lingual to lingual surface, and the ferrule filled up to the level of the die plate's upper surface, with oiled soft bird-shot, No. 12. The shot is consolidated or mashed together with the largest of the three oval forming punches that can enter without disturbing the shape of the cervix. The largest is best for full sized molars, the second for bicuspids and small molars, and the smallest for small bicuspids. More shot may be added and consolidated, taking care always not to strike too heavily, and not to raise the level of the shot above the level of the die-plate's upper surface. If necessary, the sides of the ferrule may be compressed with the fingers or between a flat anvil and a steel hammer to admit the smallest punch, and the cervical margin re-formed by pressing again on to the root when the articulating surface has been struck. The fine punch should now be driven into the mass in the cusps till perfect accuracy in detail is attained.

(11) The crown having been returned to the operator, is tried on the root with the shot still in it, and the articulation tried. Any diminution in the size of the cusps or in contour can be effected by replacing the crown on the root or the punch, and making the requisite changes in its form with a small hammer; any excess required can be attained by soldering a small piece of fine gold with 20 ct. solder. I have not as yet found this necessary, so beautifully are the dies designed.

(12) The crown being now perfect in fit and detail, the shot is removed with a fine pointed broach, heated red hot and plunged into nitric acid to remove any trace of lead. The edge, outside and inside, and the top of the articulating surface having been painted with whiting and water, a piece

of binding wire is twisted round the ferrule to hold it, and 18 to 20 ct. gold solder melted over the spirit lamp in the interior to strengthen the sides and cusps. Should the cervix be too large, a little solder should be allowed to run down inside the edge. This will be quite efficient to secure an accurate fit, and quite imperceptible when the crown is finished.

(13) The crown is now polished and porcelain-faced, if necessary, by any of the ordinary methods.

It will have been seen that but little need be done by the operator at the chair-side, merely—(*a*) the filling of the apex and preparation of the root; (*b*) the measuring of the root; (*c*) the cutting down of the ferrule to the proper height and its fitting to the root; (*d*) the selection of the crown die; (*e*) the trying on in the mouth; (*f*) cementing in position.

Legal Intelligence.

Prosecutions under the Dentists' Act.

The British Dental Association *v.* Jackson.

This case was heard at Blackpool (Lancashire) on February 15, 1897, before Henry Fisher (Chairman) and Thomas Riley, Esqs., Justices.

In this case the defendant, Oliver Lincoln Jackson, chemist, 68, Church Street, Blackpool, was summoned that he, on February 4, "not being then registered under the Dentists Act, 1878, and not then being a legally qualified medical practitioner, unlawfully did take or use an addition or description, namely, 'Dental Consulting Room,' and thereby implied that he was then duly registered under the said Act, or that he was specially qualified to practise dentistry; also on the same date, and not then being registered under the Dentists Act, 1878, and not then being a legally qualified medical practitioner, unlawfully did take or use an addition or description, namely, 'High-class dentistry in all its branches,' and thereby implied that he was duly registered under the said Act, or that he was specially qualified to practise dentistry." Mr. R. W. Turner, barrister, appeared on behalf of the British Dental Association, and Mr. Arthur

R. Fletcher, Church Street, Blackpool, defended. The defendant pleaded " not guilty " in both cases.

Mr. TURNER, in stating the case, said he would put the facts shortly before the bench, and then he proposed to call attention to the law on the subject, so that the bench could see whether or not, on the facts which he should prove, the defendant was or was not guilty. Mr. Jackson, the defendant, carried on business as a chemist and druggist in Church Street, and in addition he had a show case containing artificial teeth in his window, and he had the following advertisements or notices put up round about his shop and window: " High-class dentistry in all its branches" ; " Dental Consulting Room " ; " Single sets from 21s., complete sets from 40s." ; and " Consult Oliver Jackson, chemist's shop, opposite Post Office, Blackpool." There was another placard—" Advice about the teeth free : consult Oliver Jackson. Over 2,000 living testimonials." On February 4 of this year a Mr. Brown, in the employ of Bowman and Crawley-Boevey, solicitors, acting for the British Dental Association, called on Mr. Jackson and had an interview with him. Briefly, the interview amounted to this : he pointed out to Mr. Jackson the words quoted, and asked if he were carrying on there the practice of a dentist. The defendant admitted that he was. Brown then said " You are using these advertisements 'High-class dentistry,' &c., and you are thereby inducing the public to believe you are a person who will give them skilled treatment and assistance, which is contrary to the provisions of the Dentists Act." Mr. Jackson said he was very sorry, and that he did not intend to infringe the law ; he asked Mr. Brown what he (Brown) could do in the matter for him. Brown told him that he had no influence in the case, and that he was simply acting under instructions, and that the matter must proceed in the Court. Mr. Turner, proceeding, said he believed Mr. Jackson had now struck out the words " Dental Consulting Room," and had replaced it with " Teeth Depôt," or something like that. Whether that was an offence or not they might try another time, but the question for the bench to decide then was, did defendant on February 4 then use words in order to avoid the Act ? He (Mr. Turner) believed it was admitted that the defendant was not on the Register.

Mr. Fletcher: Oh yes; I admit that he was not.

Mr. Turner explained that the Dentists Act, 1878, provided that no person who was not a legally qualified medical practitioner, and not registered under the Act, could from the passing of that Act take or use the name or title, addition or description of dentist, either alone or in combination with any other words or name, title or description, to imply (1) that he was registered under the Act, or (2) that he was specially qualified to practise dentistry. He claimed that by the description used, the defendant implied that he was "specially qualified." "Specially qualified," as he would show by authorities, meant that any person seeing the notice up would go to Jackson expecting skilled advice and treatment. "Specially qualified" was not used in a technical and legal sense, but in an ordinary colloquial sense, meaning that anyone would expect skilled treatment. This contention was borne out by a decision under the Veterinary Surgeons Act, 1881, which Act was framed upon the Dentists Act, and was a further advance upon the Medical Act, 1857 (under which it was necessary to prove fraud), but now proof of the fact constituted an offence. Under the Veterinary Act—the words of which were precisely the same as in the Dentists Act, with the exception of the words "dentist" and "veterinary surgeon" being altered, and in which the penalty to which an offender was liable was the same, namely, £20—a prosecution was taken by the Royal College of Veterinary Surgeons, in the High Court of Justice, against a man named Robinson, who took and used the description "Veterinary forge." Justices Hawkins and Wills then held that by the use of this phrase the defendant stated that he was specially qualified to practise veterinary surgery; and the learned judges laid it down that the words "specially qualified" were not used in a technical sense, but were used in an ordinary sense. Justice Wills said, "the evidence showed that anyone taking a horse to the forge would, as the words 'veterinary forge' implied, expect to get the benefit of veterinary skill and treatment." In the face of that could they doubt that if a man put up "High-class dentistry in all its branches," anyone going to him would get the benefit of skilled treatment? When a man put up "Dental Consulting Room," what did they go there for? To consult about the teeth. Did he not mean by his sign that he was a person who would give skilled advice and treatment if necessary? He could not mean anything else, because if he came and said, "I do mean something else, I mean I was a fool, I could not do any of the work at all," then it was a fraud. But if, on the other hand, he suggested that he was skilled, then he fell within the Act. Mr. Turner said he believed the facts he had mentioned would not be disputed, and he therefore asked for a conviction against the defendant. He should be pleased to offer any further explanation on the law of the subject if necessary.

William Fletcher Thomas Brown, witness for the prosecution, said: I am clerk to Messrs. Bowman and Crawley-Boevey, Solicitors to the British Dental Association. On February 4 I called on Mr. Jackson at 68, Church Street, Blackpool. His shop is a chemist's shop. Before going in I made notes of what I saw outside, and those notes I have with me. On the front across the street, on a verandah at right angles with the street, there was painted, "All about the teeth—consult Oliver L. Jackson. Advice free. Over 2,000 living testimonials," together with a picture of some teeth. This board was nearly across the pavement. In the window there was a printed paper bearing, "Single sets from 21s.; complete sets from 40s. Consult Oliver L. Jackson, chemist's shop, opposite Post Office, Blackpool." From the street opposite the door I saw the words on a painted ornamental glass inside the shop, opposite the shop door, "High-class dentistry in all its branches." This could be seen from the street. Behind that there was the sign in ornamental letters on a door leading from the shop, "Dental consulting room." At the entrance door of the shop there was a show case with artificial teeth in it, with a card with Mr. Jackson's name on it, "Oliver Jackson, Church Street, Blackpool." I went into the shop and inquired if Mr. Jackson were in. He was not, and a young man behind the counter said he would be back in a few minutes. I left the shop and returned shortly afterwards and saw Mr. Jackson. I made a note of the conversation that took place. I said, "Mr. Jackson, I believe?" He said, "Yes, my name is Jackson." I then said, "I have called from the solicitors to the British Dental Association with reference to your practising as a dentist, and with reference more particularly to those words up there—

'High class dentistry,' and 'Dental consulting room.'" I said, "You know it is an offence under the Dentists Act to use any word implying you are a qualified or a registered man, and a summons will be issued against you for using those words." He said he had no intention to break the law and no idea that he was doing anything wrong. He said, "I will have the alterations made"—or "have them altered"—"but it will be expensive, as those fittings cost a good deal of money." I said, "Yes, they look very nice fittings, and probably it will be expensive," and he added that it would, but he would do it as he had no wish to do what was wrong. He also said, "If you have any influence I hope you will use it, for it would be useless for me to do anything wrong." I said I had called upon him to say the summons would be issued, and that I could do nothing.

Cross-examined by Mr. FLETCHER: On one of the papers in the window there were the words, "Chemist's shop."

Mr. FLETCHER: You have referred to a lot of placards talking about the teeth; why have you not included those in the summons?

The MAGISTRATES' CLERK: Included what?

Mr. FLETCHER: The placards referred to in the window.—The CLERK: He says quite enough in the summons.

Mr. FLETCHER: Well, allow me to take his answer.—The CLERK: I say it is quite enough.

Mr. TURNER: If he wants any more summonses against him perhaps he will accept service at once.

Mr. FLETCHER: I put it that where teeth are simply mentioned in circulars no conviction can be obtained.—WITNESS: I didn't say that.

Mr. FLETCHER: Have you had cases that have been dismissed in consequence? WITNESS: No.

Mr. FLETCHER: Has your Society refused to bring cases where there has been no mention of dentistry, but simply teeth?—WITNESS: Oh yes, we have had cases where "dentistry" has not been used.

This closed the cross-examination, and it was again admitted by Mr. Fletcher that defendant was not a registered man. There were no witnesses called for the defence.

Mr. FLETCHER: I submit as a preliminary objection that this case is taken under the Dentists Act, 1878, and under that Act it is prescribed that no proceeding shall be taken by a private individual unless the consent of the General Medical Council has been obtained.

Mr. TURNER: I have the Medical Act, 1886, and Section 26 of that Act does away with the consent of the Medical Council.

Mr. FLETCHER: Well, I take objection and you can deal with it, and I say that that clause has not been done away with in the Medical Act, 1886.

The CLERK: I may tell you that by the 26th Section of the Medical Act a prosecution can be taken by a private individual if necessary.

Mr. FLETCHER: Well, I submit further that in this case there has been no offence under the Act, for this reason; in the first place, that any one can practise dentistry—that is to say, I am using the word "dentistry" in the dictionary sense of the term. They can draw teeth, sell teeth, manufacture teeth, and charge for their work.—Mr. TURNER: No, they cannot charge.

Mr. FLETCHER: They can charge but they cannot recover, they cannot sue for it in a court of law. Then the Act of Parliament under which these proceedings are instituted is, like both the Acts, more or less of a compromise. There were two interests clamouring for protection. The dentists were clamouring that they should be put on the ground of a certificated profession, and there were the chemists and other people who did such miscellaneous work, who wanted to reserve their right to claim against it. The Act of Parliament provided something in the nature of a compromise, and said "While we don't forbid anyone doing this work, at the same time we try to stamp it out quietly by making it so that you cannot recover your fees," and also by saying "you must not mislead the public in any way as to what you are." As I endeavoured to get from the witness, a great deal has turned on what is misleading the public. My friend cited a case where there was a "veterinary forge," and under the Veterinary Surgeons Act, this was an almost similar case, and was held to be an infringement. But if I had it here, I could cite a case where "veterinary chemist" was held not to be an infringement, and if that guides your worships at all, I will produce the case on an adjournment. I think my friend will admit it. But the point is here that certain things can mislead the public, and other things may not, and the question is, has the public been misled, or is it likely to be misled into thinking that Mr. Jackson is a qualified dentist, or that he only means he is doing dentistry? The placard simply stated what were made inside the shop. My friend says that one could be seen from the street, that the notice of the dental department was fixed upon an inner door which could be seen from the street. That I suppose is a pure coincidence, and the sign was descriptive merely. So far as the other is concerned, which was hung up in the window, any person who saw the shop window would see that it was a chemist's shop, and that the man carrying on business there must be a chemist. I will further emphasise the fact that there has been no evidence that anybody has been misled. If this thing had been misleading, there would have been no difficulty in getting evidence that some one had been there and suffered by it. But nothing of this sort has been done, and all the prosecution endeavour to show is that these words must necessarily mislead the public. I submit, however, that there has been no evidence of that. Under the Drugs or Pharmacy Act, which is almost similar, people nowadays use the words "drug stores," but these people are never proceeded against. Unqualified chemists have drug stores, but my friend Mr. Turner cannot take any proceedings against them as he has no grounds. In the same way I say "dentistry" means "tooth drawing" in any case. My friend has cited a case of this sort, but he did not read the evidence, which shows that the defendant had sent out circulars with his name upon them and "veterinary forge" afterwards. The defendant in this case has done nothing of that character ; he had placards on his premises on which his own name appeared on the top—O. L. Jackson, chemist and druggist. He intimates what his business is, and people going inside the shop find what they have always been accustomed to understand—that there is a chemist who draws teeth if wanted, or sells teeth ; and he exhibits samples of his workmanship. I should also like to emphasise the fact that this Act of 1878 is penal and not a remedial Act. The rule of the land is that a penal Act must be construed as strictly as possible ; you cannot extend it, and unless a case is brought within the statute you cannot convict. If your worships disagree with me, then I can only say that it is one of those cases that does not call for a severe penalty. Here the Dental Association's solicitor comes and walks into the shop, and the man (defendant) tells him he is not aware that he is doing wrong; he will take down the things costing so much money, replace them, and do anything to meet the wishes of the Association. And instead of the man saying "Well, if you continue using them we shall prosecute," he says they have issued a summons. No one had been injured by these notices so far as we know; the defendant has done his work properly and never had warning until the summons was taken out. Under these circumstances, and particularly seeing that he is a respectable tradesman in the town, carrying on two shops, and always has conducted his business well and kept from coming before your worships before, he is brought here at the instance of a comparative stranger, I hope you will see your way to inflict a nominal penalty.

The Bench retired, and on returning after a brief consultation the CHAIRMAN said: The Bench have considered the case fully, and fine Mr. Jackson 40s. and costs, or twenty-eight days, in the first case, and 5s. and costs, or seven days, in the second.

The advocate's fee of one guinea was allowed in one case.

THE BRITISH DENTAL ASSOCIATION *v.* WALDRON.

THIS case was heard before the Guisborough magistrates on Tuesday, February 16.

The information against S. D. Waldron was that at Coatham, Redcar, he, not being a legally qualified medical practitioner, had taken or used the degree "D.D.S." without being registered according to the Act dealing with this subject.

Mr. R. W. Turner, barrister, prosecuted, and Mr. D. H. Stubbs defended.

A plea of not guilty was entered for defendant.

Waldron was further charged that on February 3, at Coatham, he not being registered, had unlawfully taken or used the description "high class dentistry," thereby implying that he was qualified according to the Acts dealing thereon to practise dentistry.

A plea of not guilty was also entered in this case.

Mr. R. W. Turner, in opening the case, said he appeared to prosecute on behalf of the British Dental Association. It would, he said, probably save time if he pointed out the law in such cases as the present, and having explained the same to the magistrates, went on to say that defendant was not entitled to describe himself as he had done or his name would have been on the Register. If the name was not on the Register Waldron was liable to a fine of £20. Defendant practised at Coatham, Redcar, and issued and had circulars distributed about the district setting forth that he had removed from certain premises to others where he intended to supply artificial teeth, and where he could be seen by anyone wishing for high class dentistry. On the circular defendant described himself as D.D.S., which as everybody knew meant Doctor of Dental Surgery. It was an American degree. Since the year 1892 that degree had not been allowed to be registered, as the medical authorities were of opinion that it was insufficient. Defendant also advertised that teeth would be extracted painlessly; therefore in this case they had a man using anæsthetics to extract teeth who was not a qualified person. On February 3 last the British Dental Association sent their representative, Mr. Brown, to call upon Mr. Waldron as to the circular which had been handed to the Association. Mr. Brown, whom he would put in the witness box, would be able to inform the Bench that when Mr. Waldron was asked about the circular, as to whether it was his or not, he admitted the circular was issued by him. When it was pointed out to Mr. Waldron that he was not a properly qualified dentist and should not be so described, Waldron said he would not do it any more. Mr. Turner then read extracts from the Acts of 1878 and 1886, and referred to cases bearing upon the present one, and contended that from the wording of the circular the public would expect skilled treatment from the person advertising "high-class dentistry." If an unqualified person exhibited in the window a notice that high-class dentistry was to be obtained there, that was quite sufficient to break the law. He referred to a decision of Justice Wills under the Veterinary Surgeons Act, and urged that if his contention were not upheld, a man's dog or horse would be better protected than the man himself in the matter of dental treatment. It was, he believed, admitted that defendant's name was not on the Register, and he therefore asked for a conviction on both counts.

Mr. F. S. Brown (London), representing the British Dental Association, said on February 3 he visited Coatham and called upon the defendant Waldron, whose name was on a brass plate on the door. There was a case of artificial teeth fixed outside. He was shown into a room where he saw a number of dental instruments, and informed Waldron that he had called with reference to the circular which he (Waldron) had issued. The circular had defendant's name printed upon it and bore the letters D.D.S., and also set forth that patients would receive high class dental treatment. He (Mr. Brown) pointed out to defendant that objection had been taken to the use of the letters D.D.S., as he (Waldron) was unregistered. He also informed Waldron that a summons would be issued against him as he was not registered and not legally qualified. Defendant then said he was sorry, and (pointing to some circulars in the room) said he would not send out any more with those words on; and defendent then further stated that he was not on the Register, but had done dental work for thirty years, and it would be better if he could get on the Register.

Mr. Stubbs: When you called upon defendant did you ask if he had a Dentists' Register on the premises? Witness: No.

Mr. Stubbs: Did you warn him that he should not use the words high-class dentistry or the letters D.D.S.? Witness: I told him that by using them he was committing an offence under the Act. Waldron then said he would not send out any more circulars.

Mr. Stubbs: Did you ask him if he had heard from the Secretary of the Dental Association? Witness: He said he had not heard.

Mr. Stubbs: That was the only reply made? Witness: Yes.

Mr. Stubbs: As you left the room what did you say? Witness: I told him summonses would be issued.

Mr. Stubbs: Did you not tell him he would hear from the Secretary of the Dental Association? Witness: No.

Mr. Stubbs: Did Waldron say he hoped you would inform the Association that what he had done had been done in ignorance? Witness: Yes.

Mr. Stubbs: Was there anything else except the circular—any letters on the plate outside the door, or anything else? Witness: There was nothing outside except the case of teeth; there were no letters after the name on the brass plate.

Mr. Stubbs: With reference to the words "high-class dentistry," if you saw those words used would you come to the conclusion that the person who used them was specially qualified? Witness: No, I should not, because I know better. The public might not know.

Mr. Stubbs: As to the letters D.D.S., this is an obsolete degree. Witness: No.

Mr. Turner: I rise to object to this. There is no diploma in the United Kingdom D.D.S. There is an American diploma of Michigan, in respect of which a man could get on the Register until 1892. The Medical Council then decided within its powers not to register any more American diplomas.

Mr. R. C. Yeoman (chairman of the Bench): If Mr. Waldron had been admitted before 1892, how then?

Mr. Turner: In that case he would have been registered. Here is the Dental Register to show that such cases have been registered. Therefore it cannot be obsolete. I must point out that the onus rests with the defence to prove that Waldron possessed this diploma at all. If that course were taken I should then know how to deal with it.

Mr. Stubbs: I cannot prove it; as a matter of fact defendant does not possess the diploma. He has not got it.

Mr. Turner: Then that makes the offence ten times worse.

Mr. Stubbs: Even if Waldron is not registered there is no offence.

Mr. Turner: If a man was a D.D.S. and not on the Register he could be fined. I have had several cases throughout the country where fines have been imposed.

Mr. Yeoman: It is clear that defendant is not on the Register.

Mr. Turner (to the Magistrates): You would be surprised to hear how diplomas could be bought in America.

Mr. Stubbs: Even if a man bought his diploma could he not be registered? I contend that D.D.S. means nothing; it is merely a combination of letters. Defendant could use those letters if he liked without tending to prove he was specially qualified.

Mr. Turner: I don't know that I am here to teach my friend the law. If that is the line the defence is going on I will have to press the case. I do not wish to appear vindictive, as defendant was very straightforward when questioned.

Mr. Stubbs pleaded that his client was apprenticed to a dentist for three years, when, owing to disagreement with his master, he was not able to continue. Afterwards he started at Coatham, and had a right to do so provided he did not hold out to the public that he was specially qualified under the Act. I do not think the words or the letters hold out any inducement to the public to believe that. The circulars could hardly be taken to mean that defendant wished to be taken as a registered dentist. If his client had committed any offence it was done entirely in ignorance. As soon as defendant's notice was called to the circular, he said that he would not issue any more. If the magistrates consider the defendant were guilty, I ask you to deal leniently with the case, as my client is a poor man. His parents, too, were poor, or otherwise he would have been registered.

Mr. R. C. Yeoman (chairman) said the magistrates had decided to convict. Has there been any complaint against defendant since the beginning of February?

Mr. Brown: No.

Mr. Yeoman: Defendant will be fined £2 10s. in each count, with costs, or £5 on the two and costs.

The British Dental Association *v.* Alexander Emslie.

This case was heard in the Edinburgh Sheriff Summary Court before Sheriff Orphoot, on February 17. The summons was issued at the instance of William Broomfield Paterson, 64, Brook Street, London, F.R.C.S.E., L.D.S., Hon. Secretary of the British Dental Association, with concurrence of the Procurator-Fiscal, against Alexander Emslie, residing or carrying on business at 1, Rankeillor Street, Edinburgh, to the effect that he had contravened the third section of the Dentists Act, 1878, in so far as, not being a person registered under the said Act, and not being a legally qualified medical practitioner, he had taken or used a name, title, addition, or description implying that he was a person specially qualified to practise dentistry by (1) displaying since October last a signboard at his premises with the words "American Dentistry" thereon ; (2) by having a brass plate affixed to his door with the words "Dental Office" thereon ; (3) by using on November 6 a business card with the words "American Dentistry" thereon ; and (4) by exhibiting on the same date a diploma purporting to be granted by the Dental Society of New York, authorised by the said Legislature, and to confer on Alex. Emslie the degree of Master in Dental Surgery. Mr. T. B. Morison, advocate, appeared for the respondent, and objected to the relevancy of the complaint, as the complainer had not set out his title. The Dental Statute of 1878 had set forth a definite person to prosecute, and that person was not the complainer. The Summary Jurisdiction Act and the Dental Act of 1878 were the only two under which the complaint was brought, and unless these statutes justified a prosecution at the instance of private persons, the complaint must absolutely fail for want of title. With regard to the third and fourth charges, counsel contended that there was no locus specified, and the words "American dentistry" and "dental office" implied no personal qualification. They did not imply that the respondent was registered under the Act, or that he was a person specially qualified to practise dentistry. If he had put up the words "Teeth drawn here," that would not imply that he was specially qualified to draw teeth. It was only an intimation that he was willing to draw teeth. It would be a qualification which would attach to his premises. The words did not come within the reading of the section, and the section in the circumstances must be construed as strictly as the words could make it.

Mr. Dewar, advocate, replying for the prosecutor, contended, with reference to the point, that there was no title to sue, that the Medical Act of 1886 had repealed the Section upon which counsel for the respondent had founded his argument. As to the third and fourth charges libelled, it was not possible to place a locus on a business card ; and counsel argued that the words "American dentistry" and "dental office" were used with the object of inducing the public to patronise the premises as a place where American dentistry was practised, in view of the fact that American dentistry had gained a high reputation in this country.

The Sheriff said he would consider the point of relevancy, and give his decision on Tuesday.—*Edinburgh Evening Dispatch.*

In the Edinburgh Sheriff Summary Court on February 23, Sheriff Orphoot gave his decision on the objections raised to the relevancy of the complaint at the instance of William Broomfield Paterson, 64, Brook Street, London, F.R.C.S.E., L.D.S., hon. secretary of the British Dental Association, with concurrence of the Procurator-Fiscal, against Alexander Emslie, residing or carrying on business at 1, Rankeillor Street, Edinburgh, to the effect that he had contravened the third section of the Dentists Act, 1878, in so far as, not being a person registered under the same Act, and not being a legally qualified medical practitioner, he had taken or used a name, title, addition, or description, implying that he was a person specially qualified to practise dentistry by one or other or all of the following methods :—(1) by displaying since October last a signboard at his premises with the words "American Dentistry" thereon ; (2) by having a brass plate affixed to his door with the words "Dental Office" thereon ; (3) by using on November 6 a business card with the words "American dentistry. Persons desirous of having dental work done will do well to call at our office, and save at least fifty per cent." thereon ; and (4) by exhibiting on the same date a diploma purporting to be granted by the Dental Society of New York, authorised by the said Legislature, and to confer on Alexander Emslie the degree of Master in Dental Surgery.

The SHERIFF repelled the objection to the competency of the action raised on the ground that the prosecutor was a private person. The objection to the relevancy of the third and fourth charges, to the effect that no locus had been stated, the Sheriff sustained, but he found that the prosecutor was entitled to go to trial on the first and second charges. It was clear to him that both descriptions implied that the person who put them there meant to practise what was described. The case was continued for trial till 4th prox.—*The Scotsman.*

Evidence was led in the Edinburgh Sheriff Court on March 4—before Sheriff Orphoot—on the complaint at the instance of William Broomfield Paterson, 64, Brook Street, London, F.R.C.S.E., L.D.S., Hon. Secretary of the British Dental Association, with concurrence of the Procurator-Fiscal, against Alexander Emslie, residing or carrying on business at 1, Rankeillor Street, Edinburgh, to the effect that he had contravened the third section of the Dentists Act, 1878, in so far as, not being a person registered under the Act, and not being a legally qualified medical practitioner, he had taken or used a name, title, addition, or description implying that he was a person specially qualified to practise dentistry by one or more of the following methods: —(1) By displaying since October last a signboard at his premises with the words "American dentistry" thereon ; and (2) by having a brass plate affixed to his door with the words "Dental Office" thereon. Mr. Dewar, advocate, appeared for the complainer, and Mr. T. B. Morison, advocate, for the respondent. After evidence to prove the existence of the signboard and brass plate had been led, Mr. MORISON moved for a nominal penalty, contending that the offence was a very trivial and technical one, without any injury to the public. In reply, Mr. DEWAR said it was no doubt a technical offence, but one of a very serious kind, and a statutory offence very injurious to the profession. Not only so, but it might be injurious to the public. He did not think it would do to let the respondent off with a nominal fine, but he did not wish, at the same time, to be vindictive. The Sheriff imposed a fine of £3 3s., with £2 2s. for expenses.—*Edinburgh Evening Dispatch.*

In the same Court the Sheriff had before him a complaint in somewhat similar terms, against T. Tennant Black, 11, Marchmont Road, Edinburgh. It is alleged that he, not being a person registered under the Dentists Act, 1878, and not being a legally qualified medical practitioner, had taken or used a name, title, addition, or description implying that he was a person specially qualified to practise dentistry, by (1) having his name, place of business, and scale of charges printed on cards, one of which he handed to James Crawford, 3, Crichton Place, Edinburgh, on or about February 15, 1897; and (2) having between February 12 and 15, 1897, above the door of his premises a gas globe with the words "Dental Office" thereon. The respondent pleaded not guilty, and the case was continued for a week for trial.

Actions under the Dentists Act.*

IN accordance with the arrangement made on February 2, three of the five summonses taken out against certain so-called Swansea dentists came before the Stipendiary (Mr. J. Coke Fowler) at the Swansea Police Court on February 3. The defendants were:—J. W. Holland, of 3, Dynevor Place, Henry J. Seline, of 9, Grove Place, who was represented by Mr. C. H. Glascodine (instructed by Mr. David Seline), and Alfred L. Honeymoon of Nelson Street, for whom Mr. Villiers Meager (instructed by Mr. Moy Evans), appeared, and the information against them was that they being unregistered under the Dentists Act, 1878, did take and use a certain description that they were registered under the said Act as persons specially qualified to practise dentistry. The alleged offence was committed on various dates, and the nominal prosecutor in each case was Mr. W. R. Smith, solicitor for the South Wales and Monmouthshire Dental Society, who laid the information. Mr. Sidney B. Harries, clerk to the Registrar of the High Court, brought "The Medical Register, 1896," and "The Dentists' Register, 1896," which could only be so produced through this channel. At the outset of the proceedings the summons against Mr. Holland was further adjourned for a fortnight.

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* These cases were not undertaken by the British Dental Association. We have been unable to obtain a detailed report of three out of the five prosecutions.

Mr. GLASCODINE asked who laid the information ?

The MAGISTRATE'S CLERK : Mr. W. R. Smith, personally.

Mr. GLASCODINE : I want it to be understood that the Society is not in any way the persons who laid the information, in case there should be an action for malicious prosecution.

The MAGISTRATE'S CLERK : It was laid by Mr. Smith as a private individual.

The STIPENDIARY also said that he mentioned the point at the time, and understood that Mr. Smith, senior, was the person who laid the information, and not the Dental Society.

Mr. W. R. SMITH then opened the case against Mr. Henry Seline, and at the outset read the Dentists Act, 41 and 42 Vic., 1878, Section 3, as follows :—"From and after the first day of August, 1879, a person shall not be entitled to take or use the name or title of 'dentist' (either alone or in combination with any word or words) or of 'dental practitioner,' or any name, title, addition, or description implying that he is registered under this Act," or that he is a person specially qualified to practise dentistry, unless he is registered under this Act. He then said he had the Medical Register and the Dental Register in Court, and they would find that the name of Mr. Henry J. Seline was not in either of them, though he took it the onus was upon his friend to prove that the defendant was properly registered. Drawing attention to one or two particulars in the Act of Parliament, Mr. Smith pointed out that an unregistered dentist would not be entitled to recover any fee in a court of law, and was proceeding to say that the question for the Bench to decide would be whether Mr. Seline described himself as a qualified dentist would describe himself, when

Mr. GLASCODINE took exception. to the wording of the summons, saying that it did not disclose any offence against the Act. He took it the information should disclose the offence and the information, failing this, was not complete.

The STIPENDIARY thought it was a matter of evidence.

Mr. GLASCODINE urged that he did know the nature of the offence alleged against him, and again said the information was insufficient.

The STIPENDIARY : I will take a note of the objection if you like, but I overrule it.

Mr. GLASCODINE went on to quote "Stone" in order to show that there must be no "uncertainty" or "duplicity" about the information.

The STIPENDIARY replied that if Mr. Glascodine could show him that he had misled them the Court would be willing to grant an adjournment.

Mr. GLASCODINE : I am not misled ; what I complain of is that I am not led.

The STIPENDIARY : I should think you have been led by looking up Section 3 of the Dentists Act referred to.

Mr. GLASCODINE admitted that that was so, but still argued that the nature of the offence should be disclosed on the information, adding, "in this nineteenth century, our criminal law is not a rat-trap." He did not know, he said, what offence he was charged with, and would their worships say that he was simply brought there in order to find it out? He ought to be told what description he had used in order that he might plead to it, and until he was told that he could not bring his witnesses there to answer what he was charged with.

The STIPENDIARY : There is no matter, you do appear and make his objection. Mr. GLASCODINE : Certainly, sir.

The STIPENDIARY : And to some extent your appearance overrules it. Mr. GLASCODINE : Oh, dear no; only as a matter of form. The STIPENDIARY : Well, I have heard your objection, and I overrule it, unless you have something more to urge.

Mr. SMITH then resumed his opening statement, and said Mr. Seline described himself on his printed note-heads.

Mr. GLASCODINE : What my friend is saying I take it he is going to prove.

Mr. SMITH : Well, sir, I have before me some of Mr. Seline's paper. Mr. GLASCODINE : How do you know that? Mr. SMITH : His name is upon it and also his address, 9, Grove Place, where, I am going to give in evidence, Mr. Seline carries on business. I am going to prove this : that his name is Henry J. Seline, that he carries on business at No. 9, Grove Place, and that that business is in relation to teeth. I will not put it any further than that. That being so, I submit the note paper will be sufficiently identified with the defendant and the place. I have not got a person here who received the note paper, but I submit I shall sufficiently identify it.

The STIPENDIARY looked at the note-head and observed it would be accepted, subject to evidence.

Mr. SMITH read the note-head, which gave the address 9, Grove Place, and contained these words : "American and English Prize Medal Artificial Teeth Company, Henry J. Seline, Principal." But the words Mr. Smith relied upon, he said, were Surgery and Manufactory, 9, Grove Place. He took it that that description would lead anybody to suppose that he, Mr. Seline, was a properly registered dentist. In fairness to the defendant, Mr. Smith said in conclusion, he must say this. The offence alleged against him took place on January 7, and seven days later, when called upon for advice about teeth, told the person who called, "I am not a qualified dentist, but an artificial teeth manufacturer."

EMILY DAVIES, a young woman who appeared in the box with her face swollen as though she had sadly needed the services of some dentist or other, was then sworn, and she deposed that on January 7 last, "in consequence of something she had been told," she went to No. 9, Grove Place, where she saw the defendant and asked him for four new teeth. Mr. Seline replied that he would first have to take some others out, and he extracted two, witness paying 3s. 6d. in return. She left on the understanding she was to pay another visit to the place for the new teeth in a fortnight's time.

Cross-examined by Mr. GLASCODINE : And he took your teeth out very nicely? WITNESS : Yes, sir.

Further cross-examined : A lady named Mrs. Kent accompanied her, and this person told her that she herself had had teeth extracted by Mr. Seline, that he did it nicely and the charges were reasonable. Witness did not see a brass plate on the door.

Mr. GLASCODINE : But at the next door there is a large plate setting forth in flaming letters, Mr. So and so, dentist, and so on? WITNESS : Yes, sir, Mr. Thomas's.

Mr. GLASCODINE : I didn't want you to mention names.

Witness stepped out of the box, and Mr. SMITH observed that he had forgotten to ask her whether she ever called for the new teeth.

Mr. GLASCODINE : Oh, I admit that the teeth are still there ready for her when she choses to call for them, and that they are very good teeth, too.

THOMAS BOWEN, called, said he had been employed by the South Wales and Monmouthshire Society in getting up evidence in these cases. Mr. Smith was proceeding to examine him with regard to a visit he had made to No. 9, Grove Place, but all the witness could say practically, was that Mr. Henry Seline lived there.

The STIPENDIARY : If you can go no further than that the case must fall.

Mr. SMITH : I am afraid I can go no further, sir, but I submit I have sufficiently identified the note-heading with the address, 9, Grove Place, to allow it to go in.

The STIPENDIARY was not of this opinion.

Mr. GLASCODINE : I suppose, then, the offence with which we are charged is calling ourselves a surgery.

Mr. SMITH : No, a manufacturer carrying on business at a surgery.

Mr. GLASCODINE said he should be obliged to the Bench if they would not dismiss the summons until he had added a few more words in favour of Mr. Seline and his business. There was nothing illegal in what Mr. Seline was doing; he was perfectly entitled to extract teeth, and make and fix artificial teeth, and any lady or gentleman in this land need not be afraid to patronise him as in the past.

The STIPENDIARY : It may be some consolation to Mr. Seline to know that he succeeded in soothing this young lady's pain. Although I once had a tooth extracted I remarked to the dentist that he took it out with very little pain. "Pain, sir," he replied, "is an element that dentists do not consider." However, we (Messrs. W. Walters and

David Owen accompanied his worship on the Bench) are all of opinion that the case has not been carried far enough to justify us in a conviction or a fine.

The summons was dismissed with costs.

The summons against A. L. Honeymoon, of Nelson Street, was next taken, and Mr. V. Meager for the defendant raised the same preliminary points as Mr. Glascodine had submitted, during which the learned Stipendiary expressed his willingness to amend the summons if Mr. Smith was agreeable. Mr. Smith was not agreeable, and a note of the objection was taken.

Mr. SMITH then opened the case, and said that by means of a lamp outside his house defendant advertised himself as an "artificial teeth manufacturer, from the Strand, London."

MARTHA JOHN, of 30, Orange Street, gave evidence of going with a man named David Williams to Mr. Honeymoon's house in Nelson Street, on January 25 last, and asking to be supplied with an artificial tooth. Defendant said she wanted two new teeth, and the charge would be 5s. each. She then left, promising she would call the following morning.

By Mr. MEAGER : If anybody says that more occurred than this it would be untrue ?

WITNESS : Yes, it would be untrue.

DAVID WILLIAMS, of 9, Mariner Street, was called in corroboration, and he said that when Miss John went into the house, she observed to Mr. Honeymoon, "I suppose you are the dentist," or words to that effect.

The STIPENDIARY : What was the answer ?

WITNESS : Mr. Honeymoon said "Yes," and smiled.

By Mr. MEAGER : He could not swear to the words Miss John used, as he did not trouble much about the business. He was a groom, and Mr. Bowen (a previous witness) sent them to Mr. Honeymoon's house.

Mr. MEAGER : What do you get for this job ?

WITNESS : Nothing at all, sir.

No arrangement made ?—No, sir, nothing at all.

Mr. SMITH could carry the case no further, and

The STIPENDIARY said that whilst the visit to the defendant's house may raise the suspicion that he was doing the acts of a dentist, yet the evidence is so weak, that it is not sufficient to justify a conviction. In order to bring him within the penalities of the Act of Parliament, which are very considerable, we must have evidence of the general use of a description—and not some way privately—holding himself out to the world as a dental practitioner. That is my interpretation of the Act, and if you cannot carry the case further than this, then we must dismiss this summons also.

Mr. SMITH : Very well, I cannot carry it any further.

Mr. MEAGER, on behalf of Mr. Honeymoon, pointed out that his client had eight years' experience in London and Swansea before he opened business on his own account, and also endorsed what Mr. Glascodine had said regarding the legality of any person practising the profession of a dentist, so long as the Act relating to description was not infringed. He understood that more than half the dentists of Swansea were registered practitioners, and if the others were afraid of the competition, all he could say was that it would be better if instead of complaining, they went in for better qualifications.

The STIPENDIARY said they all regarded the profession of a dentist as a most important one, and everything had been done by Legislature to protect the public against any false practitioners, and therefore he hoped that this large borough would be delivered from any false practitioners, if such there were, though at present he was glad to say there were none.

Both Mr. GLASCODINE and Mr. MEAGER took exception to the term "false practitioner," and the summons having been formally dismissed with costs, the Court rose.—*The Cambria Daily Leader.*

At Swansea Police-court on February 8 the Stipendiary gave his decision in the cases of Sidney St. H. Tweney and C. Bundy, stating that on the evidence he could not find that the defendants used any description implying that they were registered dentists, and the cases, like the others, must be dismissed. There was an attempt at applause in court, but the Stipendiary rebuked those who caused it.—*Western Mail.*

The last of the batch of Swansea dentistry cases was disposed of before the magistrates there on Wednesday, February 17, the summons against J. W. Holland, of 3, Dynevor Place, being withdrawn by Mr. W. Smith, the prosecuting solicitor.—*Western Mail.*

Chastey and another *v.* Ackland.

HOUSE OF LORDS.—Before the Lord Chancellor, Lord Herschell, Lord Macnaghten, Lord Morris, and Lord Shand.

This was an appeal from a decision of the Court of Appeal reversing an order of Mr. Justice Cave, made at the Exeter Assizes after trial before the learned Judge without a jury, and it raised the question whether the owner of premises is entitled to protection, not only in respect of his ancient lights, but also of a free circulation of air over and through such premises.

Mr. H. E. Duke and Mr. H. Broughton Edge appeared for the appellants ; and Mr. Cozens-Hardy, Q.C., and Mr. Alderson Foote for the respondent.

The appellants were the owners and occupiers of freehold premises in Exeter and carried on business therein as lodging-house keepers, and the respondent was the owner and occupier of adjoining premises in which he carried on the business of a dentist. The appellants brought the present action against the respondent for a mandatory injunction and for damages in respect of the alleged obstruction of the appellants' ancient lights and of the free access of air to their premises, by reason of certain alterations which the respondent had made in his premises. At the trial the learned Judge found the following facts proved—namely, that there had been an interference with the appellants' ancient lights, the damage in respect of which was assessed at £10 ; that the effect of the respondent's new building was to make the basement of the appellants' premises damper and their rooms less wholesome, to cause smells in their house, and by checking the draught of the fires to make the chimneys smoke, and to seriously and prejudicially affect the ventilation of their house and so to cause them pecuniary damage. The learned Judge thereupon gave judgment for the appellants and granted an injunction, ordering the respondent to pull down a portion of the new building he had erected, being of opinion that such new building constituted a nuisance to the appellants' premises by interfering with the ventilation which they had previously enjoyed, by making the basement damp, and the rooms stuffy and uncomfortable to live in. The respondent having applied to the Court of Appeal that the judgment should be entered in his favour as far as the order for the pulling down of the new building was concerned, the case was heard before Lord Justice Lopes, Lord Justice Kay, and Lord Justice Lindley, who reversed the decision of Mr. Justice Cave, on the ground that although the want of ventilation and the absence of the means of carrying off the bad smells on the appellants' premises had probably been aggravated by the respondent's new building, yet that nothing deleterious, nothing hurtful, and nothing disagreeable had been brought upon the appellants' premises by anything that the respondent had done. Their Lordships also held that if a nuisance existed on the appellants premises it was not created by the respondent, and that the appellant' had no legal right to a free passage of air which would remove disagreeable smells created upon their own premises. They further held that if the appellants had been inconvenienced by anything the respondent had done, it was *damnum absque injuria* and afforded no legal ground of complaint. The appellants now sought to have the decision of the Court of Appeal reversed and that of Mr. Justice Cave restored.

After the case had been fully argued, it was suggested by their LORDSHIPS that the matter in dispute was one that might be settled by arrangement.

Lord HERSCHELL said that if the parties had nearly arrived at an agreement he should be willing to act as arbitrator between them.

Eventually it was agreed between the parties that the appeal should be withdrawn on the terms that the £10 damages awarded to the appellants on their claim for the obstruction of their ancient lights should be increased to £300, and that the respondent should pay the appellants' costs in that House and in the Court below, and that even if it were decided that they had a legal right to require the respondent's new building to be pulled down in respect of the loss of the free circulation of air, they should not enforce such right.—*The Times.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of this Society was held on the 1st inst., Mr. JOHN FAIRBANK (Vice-president) in the chair.

The minutes of the previous meeting having been read and confirmed, Mr. Robert Stephen Fairbank signed the obligation book, and was admitted a member of the Society. The following gentlemen were elected members :—(*as Resident Members*) Kenneth Weldon Goadby, L.D.S.Eng., 6, Holly Villas, Holly Road, Leytonstone; Henry Wood, L.D.S.I., 196, Selhurst Road, South Norwood. (*As a Non-Resident Member*) John Brodribb Parfitt, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., College Road, Reading.

The LIBRARIAN reported the receipt of Guy's Hospital Reports for 1896, and the Transactions of the American Dental Association for the same year.

CASUAL COMMUNICATIONS.

Mr. C. ROBBINS exhibited a device which he had prepared to prevent a gentleman talking in his sleep. He made an ordinary vulcanite plate with two teeth, and with a couple of gold collars in order that the apparatus should remain firmly fixed. He then arranged a little metal flap, having a long and a short lever, his idea being that the short lever when bent down would readily displace the long lever when the tongue began to wag. He found, however, that it did too much, but by making a little alteration, taking a rubber dam weight, reproducing it in vulcanite, and adding it to the plate in an oblique manner it worked well, and the patient was quite satisfied with it.

Mr. J. H. BADCOCK read a paper on "Copper Amalgam: its Merits and Demerits." He said :—

My experience with regard to copper amalgam is gained chiefly from that variety called "Rogers'," though I have tried various other makes. When copper amalgam is heated, small beads of mercury ooze slowly to the surface in a kind of dew, then, more suddenly, a greater quantity is set free, sometimes with a hissing sound; and if the heating be carried further, the only result is to burn the copper and evaporate the mercury.

This behaviour suggests that there is a certain fixed proportion of mercury in some sort of combination with the copper, analogous, perhaps, to water of crystallization, and a still further quantity, in much looser combination, which is that first given off at a comparatively gentle heat.

Much difference of opinion exists as to the point at which it is best to stop the application of heat, but clinical experience seems to show that the greater the amount of mercury in the amalgam, the softer the filling will be, and the faster it will waste.

The researches of Dr. St. George Elliott and Dr. Black were next referred to. Fillings made by any of the ordinary methods possess the following advantages and disadvantages :—

(1) It works smoothly and adapts itself perfectly to every part of the cavity.

(2) The researches of Dr. Black and also clinical experience tend to show that shrinkage is in all probability absent.

(3) Once set, it never alters in shape in the slightest degree, and the edges show no tendency to curl. It is this great quality which gives it all its value, and which has enabled it to keep a place in our cabinets to-day in spite of its many gross faults.

(4) It is credited with the power of arresting decay by means of its antiseptic action. This latter it certainly possesses in common with oxychloride and certain samples of unannealed gold, as proved by Dr. Miller of Berlin. Nevertheless, I believe that this antiseptic action is of no practical utility, and should be absolutely disregarded as being without clinical significance. This opinion is borne out by many writers.

When any material is found to save teeth particularly well, a specific action is claimed for it by its advocates, *e.g.*, tin, soft gold, gutta-percha. The reason that such materials, even when inserted into damp cavities with no great skill, arrest decay in the way they often do is I think due to the fact that they are easily made to fit the cavity sufficiently tightly to exclude saliva and particles of food, rather than to any specific action. At any rate, I am sure that it is better for the operator to take no account of it, and trust nothing thereto.

(5) The discolouration caused by copper amalgam varies in degree, but will be admitted by all. The filling itself turns black or chocolate colour from the formation of salts of copper on its surface. When these salts are removed by attrition, a grey surface is left. The surface of the stopping in contact with the cavity walls also become stained. In cases where a great deal of copper has been used, the mouth after a few years comes to present somewhat the appearance of a coal mine.

(6) The chemical action just referred to is the cause of the material's most deadly vice, viz., wasting. This occurs within different periods of time and to a varying extent, but it does occur in every mouth sooner or later. The explanation I take to be fairly simple. The surface of the copper is acted upon by the air, the fluids of the mouth and the products of decomposition of food, epithelial scales, &c., and a sulphide is formed on the surface, and the mercury, previously in combination. is set free. Under ordinary circumstances this film is rubbed off in eating or washed off by the saliva, and a fresh surface of metal exposed to chemical action. The rapidity of the wasting will obviously depend on three factors : (*a*) the density of the filling, *i.e.*, the amount of copper it contains ; (*b*) the strength of the solvent ; and (*c*) the friction to which the stopping is exposed. The greater the friction, the more quickly the film of sulphide will be removed and a fresh surface presented to the action of the solvent.

Two of the factors, viz., density and friction, were early recognised, and are indeed obvious a few months after the insertion of a filling. The third and most important seems to have been overlooked.

We were taught that it discoloured badly, and was therefore only suitable for teeth at the back of the mouth ; that it "cupped," or wore down on surfaces exposed to attrition ; and that those were its only faults. As we wanted it mainly for the back of the mouth, we cared little about its discolouration, and although its "cupping" on masticating surfaces was inconvenient, it was a comparatively trifling fault, easily remedied. We congratulated ourselves on having found a nearly perfect filling material. What was not taken into account was the action of solvents, and the positions in which this action would be likely to be greatest. Experience shows most solvent action to occur in positions where decomposing *débris* collects. The result is as follows : in a fairly clean mouth all copper fillings in crown cavities, and others above the gum margin not in contact with an adjoining tooth or an artificial plate, if inserted in properly excavated cavities, never fail at the edges, and generally arrest decay so long as there is any stopping left.

Now these belong to just that class of cavities which may be filled satisfactorily with almost any alloy we like to take, with little discolouration and no wasting. If, however, the filling extend below the gum margin, the case is different.

The gum overlapping the surface of the amalgam protects it from being washed by the saliva, while it holds fermenting particles in contact with it. Whether the secretion from the gum has any solvent action I am not prepared to say. I will take, for instance, the case of an approximal filling carefully contoured and left touching the adjoining tooth at one spot. By reason of the solvent action the whole surface is gradually lost. At first the loss occurs chiefly on the dorsal aspect, but in time the approximal surface is sufficiently affected to allow fibres of meat or other food stuff to be forced up between the teeth in eating. This condition will be accelerated if the patient be a careful one who regularly uses floss silk. And now all the evils appertaining to a badly contoured filling result. As the edges of enamel protect the material immediately in contact with them, the contour from being convex becomes concave, and if there be two approximal fillings, the case is so much the worse. Clearance of food becomes impossible, the gum is pressed upon, inflamed, and caused to recede, exposing the neck of the tooth. Moreover, all this time the collection of *débris* stationary against the cervical edge of the filling ferments, and causes increasingly rapid disintegration of the amalgam with which it is in contact. If a probe be passed between the teeth it will be found that the stopping is soft at this point, and gives a peculiar and characteristic sound when scraped, and that the scrapings consist of black sulphide of copper and beads of mercury. As the solution of the filling proceeds, a hollow depression is formed which serves to entrap more *débris*, and so the vicious circle is completed. It is this persistent sticking of food between the teeth that most frequently leads to the discovery of the mischief. Not only is the stopping disintegrated, but the food, collecting on the exposed cervical edge, starts decay in the most difficult and dangerous position for it to occur, viz., above the original cervical margin and entirely under the gum. Frequently these cavities are not discovered until the exposure of the pulp has supervened.

This is no fancy picture, but what must occur sooner or later to every approximal filling made of copper amalgam.

Many an amalgam that looks perfect will be found to reveal a large cervical cavity on more careful use of the probe.

This question of the failure of Sullivan's amalgam was referred at some length by Mr. Humby, at a meeting of the Society in 1894, and at the same time he showed numerous specimens illustrating the points he brought forward.

I have tried various means to combat this fatal wasting. One of them was to bring the copper amalgam to a workable consistence by means of the addition of alloy instead of expressing any of the mercury, but although this improved matters it did not cure them. I then added a little alloy, but it did not prevent wasting, though it retarded it, while with the addition of more, shrinkage began to appear. The most successful way seems to be to face the copper with an alloy. But it is not very easy to carry this out in difficult cavities.

The opinions of several authors were then quoted, and in referring to these and the literature on the subject since 1885, Mr. Badcock stated that one is struck by the fact that concerning no single point in the preparation or manipulation or qualities of this material is there the least unanimity of opinion. Each writer has some faults to complain of and some virtues to extol, and each suggests his own remedy with equal futility.

Opinions of Mr. Claude Rogers and Mr. C. J. Boyd Wallis were then quoted, in which Mr. Claude Rogers admitted all its faults, but laid less stress upon them than Mr. Badcock was inclined to do, while Mr. Boyd Wallis confessed his want of faith in any of the varieties of copper amalgam now on the market, preferring to use an alloy unless he can prepare his own filling.

The conclusions in the author's opinion to be arrived at from the consideration of the evidence he had placed before the members were : (1) That copper amalgam should never be used in any tooth where staining would be objectionable. (2) That to prevent wasting and discolouration of adjoining teeth it is always advisable to face it with an alloy, and that in the case of interstitial fillings this is absolutely imperative. (3) Its antiseptic qualities are so slight as not to be of any practical value. A greater effect would be produced by a strong antiseptic applied to the cavity. (4) As a filling it should be used only in deciduous teeth, for the saving of which it is eminently adapted, and to exceptional cases. (5) Small crown cavities in permanent teeth can be easily and well filled with an alloy alone, while large ones with weak walls, and all interstitial cavities, can be better filled by the combination of an alloy and cement.

In concluding his paper Mr. Badcock suggested that a committee of the Society should be appointed to investigate and report upon the subject.

Mr. KENNETH GOADBY read a paper on "The Discolouration Copper Amalgam."*

The CHAIRMAN said that so far as his experience went he had nothing to say in favour of copper amalgam. In America there were dental practitioners who devoted themselves exclusively to amalgam fillings, and the cases he had seen had always excited his admiration, for he had never seen a single flaw in them. The approximal cavities and the cavities in the masticating surfaces of the teeth had all been perfect. It struck him that if extraordinary care were taken in the preparation and insertion of the amalgam, gold filling, except in the front of the mouth, might be done away with.

Mr. F. J. BENNETT said his experience had been that where copper amalgam at all was to be used the old Sullivan amalgam wasted less and was altogether more satisfactory than Rogers's. Rogers's amalgam did not stain so much, but he thought it dissolved away more at the cervical edge and that it cupped more. He thought some of the vices of copper amalgam might be due, not to the amalgam, but to the metal copper acted upon by acids in the mouth. In the event of a

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* We hope to publish this in our next issue.

Committee being formed for the purpose of considering the subject, he would advise them not to restrict themselves either to copper amalgam or any amalgam, but to go into the question of the pure metals.

Mr. HUNT differed from Mr. Bennett, and thought the subject of the merits and demerits of copper amalgam was sufficiently large to engage the attention of the Society for some time to come. The very fact of copper amalgam having been before the profession for more than fifty years, having been pooh-poohed by some and regarded as a perfect sheet anchor by others, perplexed him as it had perplexed many, and he thought that the matter should be most carefully gone into. It had been pointed out some time ago that where the surface of a Sullivan amalgam, properly introduced, was found to be bright and brilliant, there would certainly be wasting and failure ; but where the surface rapidly became black it was often found to be a success. That had been his experience and the experience of many other members. He was glad to find the old bogey sulphate of copper dismissed for ever.

Mr. HUMBY said that copper amalgam had, practically speaking become a thing of the past. If it were a difficult thing to secure a permanent filling he could understand using so dangerous a compound as copper amalgam, but it was a simple thing in the present day to select a material which would answer all purposes, except in regard to colour. With the aid of the oxyphosphates an amalgam could be obtained which would give all the results desired except colour, and submarine would control any shifting that might occur, so that dentists were practically independent of the old impostor copper amalgam. Dentists laid themselves under the accusation of being most careless if they employed copper amalgam.

Mr. CUNNINGHAM disagreed with Mr. Humby. Copper amalgam was not an impostor, and he, for one, should continue to use it as he had used it already. To a great extent he endorsed everything that had been said in the paper except Mr. Badcock's conclusions. He had evidence that copper amalgam had lasted, in certain cases, from the years 1884, 1885, 1886, and he found in looking over the records that even at that time he was in the habit of combining copper amalgam as the lining of the cavity, and the upper part was filled with an edge-strengthening amalgam. Gradually he had been reducing the copper amalgam more to a lining and had brought it up to the edge. With regard to Professor Miller's theory that the tooth saving was due to the germicidal character of the copper amalgam, that might be exaggerated, but it coincided with experience. He agreed with the essayist that the physical quality was the greatest feature of the copper alloy. It had the great quality of maintaining its position and close adaptation to the wall. At the same time it would be admitted that if there were a leakage, or if there were any cavity formed where germs could obtain access, then a filling material which had germicidal power was, other things being equal, better than one that had not. With regard to Mr. Goadby's paper, he (Mr. Cunningham) had never seen green staining in any cases he could remember due to copper amalgam. He had seen it in some teeth, and accounted for it there by the fact that the fault was the dentist's. He did not think that Mr. Goadby had done justice to Dr. Miller's experiments.

Mr. ROBBINS thought the one great feature of copper amalgam was that it very seldom shrank. He considered the papers brought the matter up to date, and that there was a hopeful future not only for copper amalgam having proper attention given to it, but for all amalgam fillings. There were still places, he thought, where copper amalgam should be used—for temporary teeth and old broken-down shells of teeth that nothing else could be put into, or for very soft six-year-old molars.

Mr. CLAYTON WOODHOUSE and Mr. MARTIN HENRY also took part in the discussion.

Mr. BADCOCK, in reply, agreed with Mr. Hunt that the brilliant fillings wasted, but he did not think that the black filling always meant success—very often it meant exactly the reverse. Mr. Cunningham seemed to forget that he said in his paper that the only justifiable way of using copper amalgam was to use it coated. He used it himself in temporary teeth and in cavities which he could not get dry. He put in a layer of copper amalgam and covered it with a layer of some alloy to protect its surface, and in that way produced a very good filling; but where he could use oxyphosphate he did so in preference to the copper, because he believed its qualities were better as a tooth saver. He quite admitted that if a filling were germicidal it was an advantage, but he advised no one to lay any stress on the germicidal property of copper amalgam. With regard to Mr. Robbin's remarks about using copper amalgam for frail teeth, it seemed to him (Mr. Badcock) that for a frail shell of a tooth a stronger filling was to be found in oxyphosphate coated with alloy. He was rather surprised to find that most people seemed to think he had made a deadly onslaught on copper amalgam. He confessed he did not find anything like the use for it he did, but all he said was that it should be used, when it was used, protected, and not any longer used unprotected or for interstitial fillings.

Mr. GOADBY also briefly replied.

The thanks of the members having been accorded to the authors of the papers, and to Mr. Robbins for his communication, the meeting adjourned.

Glasgow Dental Hospital.

THE twelfth annual general meeting of the subscribers to the Glasgow Dental Hospital was held on February 24, in the hospital, at 5, St. Vincent Place, Glasgow. Lord Provost Richmond presided. The secretary, Mr. Alexander, in submitting the annual report, said that in consequence of the expiry of the lease of the premises in Chatham Place, and the necessity for additional accommodation, the directors had to deal with the question of providing new premises for the hospital. As they did not feel that, in the meantime, they were justified in going into any scheme of purchase or building, they took a lease of the premises at 5, St. Vincent Place, which they had altered and fitted up to suit the requirements of the hospital. The increased accommodation enabled the work of the hospital to be carried on with greater efficiency and comfort, and the directors were confident that when the premises became better known to the public they would be fully taken advantage of, and with their central position, would lead to a large increase in the number of patients.

The LORD PROVOST, in moving the adoption of the report, said it gave him great pleasure to be present. He considered the report a very satisfactory one. He was sorry that the removal to other premises had resulted in restricting the number of patients, but at the same time he was certain that when the public became aware of the change, the fullest advantage would be taken of the hospital. The falling off in the public subscriptions was quite trifling.

Mr. J. T. HEDDERWICK seconded the adoption of the report, which was carried.

The office-bearers having been appointed, the proceedings terminated.

Newcastle-upon-Tyne Dental Hospital.

THE annual meeting of Governors of the Dental Hospital was held at the hospital on Wednesday, February 24, the Mayor of Newcastle (John Goolding), presiding. The reports of the Committee of Management, of the Dental Committee, and of the hon. treasurer, together with the audited statement of accounts, were read, and on the motion of the Mayor, seconded by Mr. Arthur Laing, and supported by Councillor J. A. Batey, the reports and accounts were adopted and ordered to be printed and circulated. The officers for the current year were elected as follows:—President, The Right Hon. Sir Matthew White Ridley, Bart, M.P.; Vice-Presidents, The Right Rev. the Bishop of Newcastle, W. A. Watson-Armstrong, Esq., and the Mayor of Newcastle-upon-Tyne; Members of the Committee of Management, Aldermen Stephenson, Stephens and Sutton, and Mr. G. W. McLean; Hon. Treasurer, Mr. R. G. Hoare, J.P.; Hon. Secretary, Mr. Frank

Marshall ; and Hon. Auditor, Mr. R. W. Sisson. On the motion of the Mayor a hearty vote of thanks was passed to the members of the hon. staff for their services during the past year, and the meeting concluded with a vote of thanks to the Mayor for presiding.

Birmingham Dental Hospital Students' Society.

A MEETING of this Society was held in the Professors' Common Room, Mason College, on Thursday, February 11, at six o'clock, the President, Mr. J. DENCER WHITTLES, in the chair.

Some general business having been transacted, Mr. H. J. PATERSON read a most instructive and interesting paper on "The Treatment of Temporary Teeth."

A short discussion followed, after which Mr. A. WEST WALKER read a second paper entitled "Present Dental Teaching," which proved of a most amusing character, and which ought also to prove of no little use by pointing out to the College and Dental Hospital authorities a few of the faults of which the present dental teaching is by no means deficient.

A very lively discussion followed, in which nearly all present took part. Votes of thanks to the chairman and to Messrs. Paterson and Walker terminated the proceedings.

A special meeting of this Society was held at Mason College, on Friday evening, February 26, in the Pathological Museum, Medicine Theatre and Common Room. There was a large and influential attendance, including some of the leading men in both dental and medical professions. In all there were about 150 present.

The programme was started by an exhibition of living cases, specimens and dental instruments and drugs, the latter including exhibits from Claudius Ash & Sons, The Dental Manufacturing Co., The Midland Dental Manufacturing Co., and Phillip Harris & Co. The next item was a number of demonstrations, including the following : Mr. J. Dencer Whittles, a demonstration with the projection microscope ; Mr. F. R. Howard, "An Easy Way of making a Crown" ; Mr. C. A. Leedham Green, "Methods of Administration of Anæsthetics" ; Mr. James Williams, "Manufacture of Porcelain Teeth" ; Mr. A. W. Shedden, "Photo-micrography." This was followed by an exhibition of slides illustrating dental and general pathology, and also including some slides lent by Dr. Washburn and Messrs. J. Howard Mummery and Charles Tomes. These were shown by the electric lantern lent for the occasion by the Walsall Electrical Company. There was also an exhibition of pictures by the Cinematograph, kindly given by Messrs. Hamilton. A selection of vocal and instrumental music brought a very enjoyable evening to a close.

Birmingham Dental Hospital.

The thirty-seventh annual meeting in connection with the Birmingham Dental Hospital was held on March 5, at the Council House. The Lord Mayor (Councillor James Smith) presided.

The report of the committee stated that the past year had proved the most successful in the history of the hospital.

The financial statement showed that the income from all sources amounted to £934 9s. 7d., and the expenditure to £705 1s., leaving a favourable balance of £229 8s. 7d. The balance in hand at the commencement of the year was £216 9s. 2d.

The Chairman, in moving the adoption of the reports and balance sheet, congratulated the committee on the successful work of the hospital.

Lieut.-General Phelps seconded the resolution, which was carried.

Votes of thanks were accorded the Honorary Hospital Staff, and the officers were appointed for the ensuing year :—The Lord Mayor, President ; Lord Calthorpe, Vice-President ; Mr. J. Wilkinson, Hon. Treasurer ; Mr. W. A. Addinsell, Hon. Secretary ; and Mr. P. Bates, Hon. Auditor. The Committee and the Hon. Assistant Dental Surgeons were also appointed.

Mr. C. Sims proposed a vote of thanks to the Lord Mayor for presiding, and Mr. J. H. Matthews seconded the resolution.

The motion was carried, and the meeting terminated.

International Medical Congress.

To be held at Moscow, August 19 *to* 26, 1897.

The following is the programme of the section of dentistry of the coming International Medical Congress in Moscow :—

(1) What kind of general and special learning is desirable for the persons who are to occupy themselves with dentistry? The lecturer, Professor Dr. Julius Scheff (Vienna).

(2) The hygiene of the cavity of the mouth and of the teeth.

(3) General and local anæsthetics for tooth extraction. The lecturer, Dr. V. Richardson (London).

(4) Cataphoresis in dentistry.

(5) The essence and treatment of pyorrhœa alveolaris. The lecturer, Professor Dr. József Arkövy (Budapest).

(6) The treatment and filling of pulpless teeth.

(7) Crown and bridgework from the hygienic and technical point. The lecturer, M. Morgenstern (Baden-Baden).

In accordance with the regulation of the Congress, papers dealing with the above subjects will have preference over others. This does not, of course, exclude communications upon other subjects, but such communications can only be read provided that time permits.

It is important that papers or, at any rate, a short account of them, be received before May 1, 1897, in order that they may be printed and distributed amongst the members of the Congress.

The members of the Committee are Dr. I. Kowarsky, Dr. N. Nesmejanov, Dr. S. Urenius, and the address of the Secretary of the section is Dr. F. Rein, Moscow, Little Dmitrowka, h. Scheschkow.

Abstracts and Translations.

Dr. Black's Researches on the Physical Properties of Silver-Tin Amalgams.*

It is almost impossible to condense into a brief review the last record of the observations of Prof. G. V. Black, as published in the December number of the *Dental Cosmos*, and yet its importance demands attention. The twenty-eight solid pages of matter comprise the results of hundreds of experiments, performed with the utmost scrupulousness as to details, and faithfulness in making the record. A former series, the results of which were summarised in this journal, had established certain new facts, and it was in their light that the last series of observations was conducted. One of these novel demonstrations was that of the "flow" of amalgams, which had been, too often, at least, mistaken for "spheroiding." Prof. Black proved that under a stress, or pressure that was kept up for some time, amalgams changed their form and gave way to the impress.

All his previous study had only tended to show that amalgams were entirely unreliable as fillings, and that no definite rules could be laid down by which their vagaries could be made intelligible. It was in the hope of discovery of some law of action that would account for the unaccountable phenomena exhibited, that Prof. Black commenced his last experiments. The "flow" had been found to be influenced by certain conditions, but these had not been exactly determined. The shrinkage and expansion had been studied, and in some cases measured, but no rule that could control it had been deduced. The changes in alloys that were brought about by the lapse of more or less time had been marked, but the factors active in producing those changes were not positively ascertained. Here were problems to be solved, and Prof. Black set about their elucidation with all the ardour and enthusiasm of the born experimenter and student that he is.

The first thing to do was to perfect his implements and devices. A more accurate micrometer for measuring minute distances was devised. Steel matrices for containing the fillings were made, each absolutely a duplicate of the rest, and other necessary apparatus was invented. The instruments for determining the crushing force of fillings were already at hand. Units of measurement were adopted, and methods of tabulating the results perfected. Every facility for making and casting alloys that should be exact in the proportion of their ingredients was obtained, so that results might not be vitiated by any inaccuracies.

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* This admirable epitome of Dr. Black's researches, published in the *Dental Cosmos* (Dec., 1896) is taken from the pages of the *Dental Practitioner and Advertiser*.

Prof. Black had previously discovered that the changes in the physical character of the alloys continued up to a definite point, when they ceased, or were modified in character. For instance, a freshly cut alloy made of definite proportions of silver and tin worked harshly, and when amalgamated set very quickly. It had, perhaps, considerable expansion, depending largely upon the proportions of the metals in the alloy. After a month the same alloy, amalgamated in precisely the same manner, presented far different characteristics. It perhaps worked smoothly, set much more slowly, and the expansion was changed into a positive shrinkage. These phenomena were not exhibited when the alloy was allowed to remain uncut in the ingot, but became immediately apparent upon the cutting. The manner in which they were cut also affected them. The observations were mainly confined to the silver-tin alloys, without the incorporation of any other metal, but at the last these "modified" alloys were also examined. The task was to determine what were the influences dominating these changes, and how they could be controlled. To this end alloys varying from silver 40 parts and tin 60 parts, to silver 75 and tin 25, were subjected to all the varying conditions which the ingenuity of Prof. Black could devise.

In the first place, he attempted artificially to produce this "ageing," or modification in the characteristics of cut alloys that takes place with the lapse of time, by submitting them to abrupt changes in their surroundings. He placed alloys freshly cut from the same ingot, in vials, or long-necked tubes, and submitted some to the light, while others were kept in darkness ; some were hermetically sealed, and some were left exposed to the air ; some were kept in the presence of moisture, and others were preserved from its influence. Other alloys were subjected to different conditions. The results were practically the same under all the circumstances. Nothing save the lapse of time seemed to produce the effects, if we except temperature, which seemed to be a factor in the case.

Then Professor Black set about another series of experiments, to learn if oxidation was the prime agent, as had been asserted by many. He made long-necked bottles, which could be connected with the generators of different gases, and placing freshly cut alloys in them, he subjected each to a different gas—oxygen, hydrogen, nitrogen, &c.

Even oxygen gas did not seem to modify the character of the alloys. Interspersed with all these, fresh cuttings were made from the ingots from which the others were cut, the results being the same as in the earlier cuttings, thus demonstrating that there was no change taking place in the ingot.

He next submitted the ingot during its cutting to the action of oxygen and other gases, but with no special effect.

Dr. Flagg had asserted that the shaking of alloys in a bottle induced the change called "ageing." Professor Black tried this, with what seemed to be a positive result. So he attached cut alloys in bottles to some of the machinery connected with engines—so particular is he in making his records that he specifically indicates the exact points of the exact machine to which they were attached—but with no special results. The remainder of the same alloy, cut at the same time, but which had not been submitted to the shaking, when amalgamated gave the same results as to shrinkage or expansion.

The "ageing" was evidently not affected by light, by dampness, by gases, by oxidation, or by motion. But without design, some of the cut alloys were subjected to a continued low, while others at the same time endured a high, temperature. The results of tests showed a difference of six or seven points of variation, those kept in a warm place having the most. All had been cut from the same ingot. This was perplexing, for the diversity in temperature was not at first known, and it was supposed that the conditions of each were the same. Further experiments in oxidation of the cut alloys were performed without results. Finally the variation of temperature was traced out, and experiments to determine that factor were inaugurated. He had ascertained that fresh cut alloys of silver and tin, 65 to 35, when amalgamated, expanded one point. After "ageing" for three months the same alloy shrank nine points. This change, it was now demonstrated, was not due to oxygenation, or to any chemical agents. All the evidence seemed to point to temperature as the one factor producing the mutation. All the formulæ tried had been affected in the same manner, but in varying degrees. To preserve an even temperature in the dental office was an impossibility, and the prospect of reaching satisfactory results was very discouraging.

Tubes containing freshly cut alloys were hermetically sealed and sunk in the vat of an ice-making machine, where they were kept at the temperature of melting ice. Others of the same alloys were kept in a room at ordinary temperature, while yet other sealed tubes were suspended between the glass and a heavy reflecting curtain of a window having a southern exposure. The incubating ovens used for the culture of micro-organisms were also utilized, in which tubes containing alloys could be kept at a steady high temperature. These gave a wide range, and were sufficient thoroughly to test the matter.

It was necessary to prepare a great many tubes, for tests must be made every day, and in some instances more frequently.

The tubes hung in the south window were subjected to extreme changes, in the daytime sometimes reaching 105°, which at night was materially reduced. In two days it was found that the harshness in working of the freshly cut alloys was materially modified. They also set much slower. Within a week they began to shrink instead of expand, and in three weeks they shrank almost the maximum. Some of them that were covered with tinfoil, to exclude the light, were also tested, with the same results.

The ovens were set at a temperature of 140°, 130°, and 120°, with a variation in the results. At the first named temperature they reached their full limit of shrinkage, and were "aged" in from six to twelve hours. At 130° the shrinkage became greater in amount, but was slower in taking place. At 120° the shrinkage became about the same as at 140°, but was not reached until the expiration of three and one-half days. Boiling water was also used, but the high temperatures, though more prompt in action, did not give as good results as far as the physical properties were concerned.

The alloys kept on ice were examined after six weeks, and were found to work as harshly and to expand in about the same ratio as when freshly cut. They had been kept at about 15°, and there had been no change. Those kept on ice, at a higher temperature, showed a stronger peculiarity. They came to work as smoothly and to set as slowly as alloys that had been cut for a longer time, but they did not exhibit the same shrinkage.

These experiments demonstrated that the changes that occur in a cut alloy are largely dependent upon the temperature at which it is kept. Certain fixed points produced more perfect fillings than either a higer or a lower heat. They made plain the reasons for some of the vagaries presented by alloys. The thermal changes seem to be the potent factor in the production of the mutations.

The proportion of mercury used was sufficient to produce an amalgam of proper plasticity. In some instances, and with certain alloys, it was more, and with others less. No definite, exact proportion was used with different alloys, because what was sufficient for one would be insufficient to produce a proper working amalgam with another. But the alloys before amalgamation, and the mass after the mixing, were carefully weighed to determine the amount of mercury, and after kneading, the surplus mercury was squeezed out between folds of muslin. It would seem that here might be a source of error. As has been pointed out by Fletcher, such expressed mercury must carry with it a certain proportion of the other metals, and it might vitiate the result. It would appear that in this, after ascertaining the proper proportions of mercury, fillings should have been made without squeezing or removal of any part of that which had been compounded.

The measurements of the expansion and shrinkage were very exact. Both were plainly observable under the microscope, as the present writer can testify, for different specimens in their steel cells were submitted to him for examination. He was allowed to keep them for some time, and the indications were unmistakable. But exactly to determine the amount required a nicety of perception and a delicacy of manipulation that was beyond his skill. Indeed, of the difficulties attending these measurements, and the importance of their consideration, Prof. Black himself says :—

" I do not know whether the profession realises, or can realise from any words of mine, just what these measurements mean. It seems to me that it is necessary that they be followed with the microscope for a time to gain a full realisation of them, and of their importance. To most minds the ten-thousandth of an inch seems a very small thing, and it is so from the standpoint of ordinary measurements. But from the standpoint of microscopic measurements it is rather coarse. Microscopists use the micromillimeter (one-thousandth of a millimeter), as their unit of measurement, and divide this into tenths for the measurement of micro-organisms. The micro-organisms that are instrumental in causing caries of the teeth, measure from 0·4 to 0·8 micromillimeters. Now, one ten-thousandth inch is substantially 2·5 micromillimeters. From this it will be seen that if shrinkage opens the margins of a cavity that has been filled with amalgam one-ten-thousandth of an inch or even one-half that, there is room for the free entrance of micro-organisms."

Of the methods used for retaining the fillings in position in the matrices, or of the methods of their measurement, it is unnecessary to speak. It is sufficient to say that they seem quite sufficient.

The alloy used in the experiments detailed was, silver 65, tin 35, and the shrinkage obtained by subjecting it to the temperature of boiling water was almost uniformly nine points, or nine ten-thousandths of an inch. At a continuous temperature of 130° for a number of days, this had been increased to ten, eleven, or even twelve points. But other alloys showed a different range, and a table that is appended shows that each alloy has its own expansion-shrinkage range. Some show only expansion, and some contraction. Upon this point Professor Black says :—

" Unmodified silver-tin alloys (those that contain no other metal) that have 75 per cent. of silver, or more, expand only. They cannot be made to shrink by "ageing," though their expansion can be greatly modified. The unmodified alloys, containing as much as 65 per cent. of silver and less than 75 per cent., expand when fresh cut and shrink when fully "aged." Those alloys containing as much as 50 per cent. of silver, and up to 61 or 62 per cent., shrink only, but shrink much more when " aged " than when used fresh cut. Those that contain less than 50 per cent. of silver, first shrink and then expand. When used fresh-cut the expansion is the greater; when "aged" the shrinkage is the greater. Alloys containing from 65 to 75 per cent. of silver are hard, and make hard and quick-setting amalgams; they make also the strongest amalgams that can be made of silver and tin. Alloys containing less than 60 per cent. of silver are soft, and make soft, slow-setting amalgams. These grade into the group above somewhat gradually. Alloys containing more than 75 per cent. of silver are soft, and make fragile, slow-setting amalgams. The slow-setting occurs somewhat suddenly after passing 75 per cent.

The explanation offered by Professor Black for the changes that occur in an alloy by subjecting it to heat is, that in cutting an alloy it is hardened, and made to assume a kind of allotropic condition, as may be secured in the case of most metals by continued hammering, when their chemical relations to mercury become materially changed. Heating the alloy anneals it, and returns it to its normal state. In this connection the experiments of cutting the ingots under differing conditions, of filing as well as cutting in a lathe, seem to suggest themselves. But it was demonstrated that the annealing, or "ageing," must be done at a given temperature to present the best results. It must be done after cutting, as the hardening is produced by the cutting tool. When this annealing is properly done, the alloy will remain in the same physical state for an indefinite time, unless subjected to new and materially different conditions.

The utmost exactness most be observed in the preparation of the ingots, if uniform results are to be obtained. We all know that the slightest trace of some foreign metals will change the whole character of a resulting alloy. It is almost impossible for the manufacturer always to get exactly the same proportions, even when great pains are taken with the weighing. In the melting, too, some part of one of the ingredients may be burned out, and so it is probable that no two melts will be precisely the same, or produce exactly identical results. Professor Black conducted a series of experiments that amply demonstrate this, for even with his exact methods he did not always obtain alloys that presented the same physical characteristics.

The following table shows the changes in the alloys made of silver and tin alone, in varying proportions, that are produced by annealing. Special attention is called to that of silver 65, tin 35, in which it is shown that when fresh cut the expansion is one point, or one-ten-thousandth of an inch, while after annealing there is a shrinkage of ten points, making a range of eleven points. In the alloy of silver 75, tin 25, there is an expansion of sixty points, which is reduced by annealing to six points, but never reaching shrinkage.

The mode of manipulation makes a difference in the expansion-shrinkage range, but not as much as might naturally be expected. It is sufficient, however, to interfere with the preservative qualities of the lling.

EXHIBIT OF UNMODIFIED SILVER-TIN ALLOYS.

Formulæ.		How Prepared.	Per Cent. of Mercury.	Shrinkage.	Expansion.	Flow.	Crushing Stress.
Silver.	Tin.						
40	60	Fresh-cut	45·78	6	7	40·15	178
40	60	Annealed	34·14	9	3	44·60	186
45	55	Fresh-cut	49·52	4	8	25·46	188
45	55	Annealed	32·13	11	1	28·57	222
50	50	Fresh-cut	51·18	2	2	22·16	232
50	50	Annealed	37·58	17	1	21·03	245
55	45	Fresh-cut	51·62	2	2	19·66	245
55	45	Annealed	40·11	18	0	17·53	276
60	40	Fresh-cut	52·00	1	0	9·06	239
60	40	Annealed	39·80	17	0	14·10	297
65	35	Fresh-cut	52·00	0	1	3·67	290
65	35	Annealed	33·00	10	0	5·00	335
70	30	Fresh-cut	55·00	0	14	3·45	316
70	30	Annealed	40·00	7	0	4·67	375
72·5	27·5	Fresh-cut	55·00	0	42	3·92	275
72·5	27·5	Annealed	45·00	3	0	3·76	362
75	25	Fresh-cut	55·00	0	60	5·64	258
75	25	Annealed	50·00	0	6	5·40	300

The flow and strength of the amalgams are important factors. The resistance to flow increases with the proportion of silver. That which is indicated in the table is the yield in one hour under a pressure of sixty pounds. The working qualities of the different alloys vary greatly, the harder one setting quickly, and the softer ones more slowly, the former requiring more kneading or grinding than the latter. In a former communication Prof. Black had asserted that grinding in a mortar weakened an amalgam. He now found that this was not true of the harder alloys, but was of those that were soft.

Prof. Black also conducted a series of experiments with alloys into whose composition entered other metals than silver and tin. Each addition varied the characteristics. Selecting as a basis the silver-tin alloy of 65 to 35, he modified it by making other alloys containing 5 per cent. respectively of gold, platinum, copper, zinc, bismuth, cadmium, lead and aluminum. The following table shows the characteristics presented by each. It should be understood that in the case of aluminum, that metal is so light that an addition of 5 per cent. by weight makes nearly 20 per cent. in bulk. The alloy was so impracticable that the proportion was reduced to 1 per cent.

EXHIBIT OF MODIFIED SILVER-TIN ALLOYS.

FORMULÆ.			How Prepared.	Per Cent. of Mercury.	Shrinkage.	Expansion.	Flow.	Crushing Stress.
Modifying Metal.	Silver.	Tin.						
	65	35	Fresh-cut ...	52·33	0	1	3·67	290
	65	35	Annealed ...	33·00	10	0	5·00	335
	66·75	33·25	Fresh-cut ...	51·52	0	4	3·35	329
	66·75	33·25	Annealed ...	33·53	7	0	5·06	380
Gold 5 ...	61·75	33·25	Fresh-cut ...	47·56	0	1	4·62	330
Gold 5 ...	61·75	33·25	Annealed ...	30·35	7	0	6·07	395
Platinum 5...	61·75	33·25	Fresh-cut ...	51·87	0	9	9·68	273
Platinum 5...	61·75	33·25	Annealed ...	37·33	7	0	8·20	352
Copper 5 ...	61·75	33·25	Fresh-cut ...	53·65	0	23	2·38	343
Copper 5 ...	61·75	33·25	Annealed ...	35·60	5	0	3·50	416
Zinc 5 ...	61·75	33·25	Fresh-cut ...	56·65	0	68	1·83	290
Zinc 5 ...	61·75	33·25	Annealed ...	40·65	0	9	2·07	345
Bismuth 5 ...	61·75	33·25	Fresh-cut ...	46·26	0	0	4·78	288
Bismuth 5 ...	61·75	33·25	Annealed ...	23·67	6	0	5·58	308
Cadmium 5	61·75	33·25	Fresh-cut ...	57·57	0	100	6·40	225
Cadmium 5	61·75	33·25	Annealed ...	47·25	0	5	3·54	290
Lead 5 ...	61·75	33·25	Fresh-cut ...	44·17	0	1	4·88	290
Lead 5 ...	61·75	33·25	Annealed ...	32·76	10	0	7·18	276
Aluminum 5	61·75	33·25	Fresh-cut ...	65·00	0	445	——	——
Aluminum 1	64·5	34·5	Fresh-cut ...	46·98	0	166	12·60	198
Aluminum 1	64·5	34·5	Annealed ...	38·26	0	48	17·90	213

Gold.—The addition of 5 per cent. of this metal makes a softer working amalgam, and retards its setting. The mass becomes pasty, and is so springy that it is difficult to make a good finish when the alloy has been annealed. It takes a little less mercury, but the flow is increased. The amalgam is tough and strong. It certainly adds to some of the good qualities of an amalgam, but it is not sufficiently firm for good working.

Platinum.—The addition of this metal produced some curious complications. The freshly cut alloy is fairly white, but when annealed it changes to a dark colour, and on mixing in the hand blackens it with a deposit difficult to remove. The filling is also dark. It is peculiarly plastic, it sets slowly and flows badly. It does not seem a desirable addition.

Copper.—The alloy when freshly cut sets very quickly, becoming hard almost immediately. When annealed it makes a soft, pleasant working mass, and the setting is satisfactorily slow. The expansion-shrinkage range is materially increased, the flow is diminished, and the amalgam is the strongest of the series. It would seem to be a valuable addition.

Zinc.—The expansion-shrinkage range is increased very markedly, and the expansion continues for a long time. It does not rise evenly in the tubes, but bulges in the centre. It requires a large amount of mercury to amalgamate it, the flow is decreased very much, while the strength is good. It works fairly well.

Bismuth.—This amalgamates very readily, and requires but a small amount of mercury. The mass is very soft and springy, and it is difficult to get good margins with it. The flow is increased and the strength reduced. Evidently unfit for use.

Cadmium.—This, when freshly cut, has an expansion of one hundred points. Annealing removes nearly all of that. It requires a large amount of mercury, sets quickly, and must be worked very fast. The flow is increased, but the fillings present a beautiful appearance.

Lead.—This alloy amalgamates very quickly, works very soft, but the flow is increased, and the amalgam is dark.

Aluminum.—A 5 per cent. addition of this amalgamated readily, and formed a nice, smooth mass, but the chemical action was so violent that it was soon too hot to handle. The mass quickly fell into a dark powder, and disintegrated. The steel tubes into which it was subsequently packed were corroded and darkened, and became too hot to hold in the hand. It expanded enormously, and after two months one-fourth of the material seemed to be above the edge of the cavity.

When only 1 per cent. was added to the silver-tin alloy, the heat was less, but the chemical action developed gas bubbles that makes it an utterly impracticable material, and it is evident enough that the aluminum amalgams that have been offered for sale can contain no aluminum, or they would immediately on mixing betray themselves.

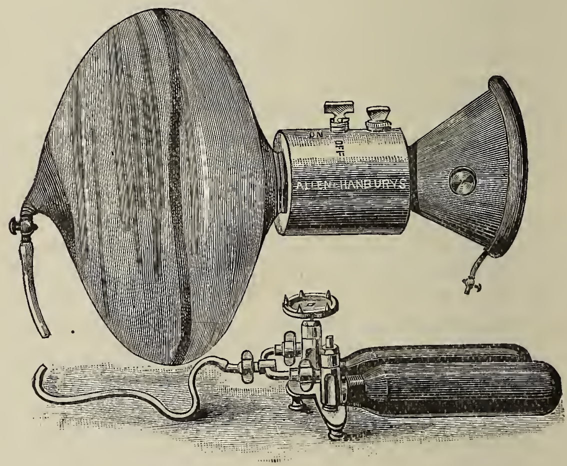
In the light of the facts revealed by the last table, it will be seen that the popular opinion concerning the qualities which different metals add to an amalgam is largely an error. Other combinations of four or more metals may modify these conclusions, and produce an alloy that is more in accordance with the general impression, but certainly the multiple alloys that have been presented to the profession must be quite empirical in their nature. That the experiments and observations of Prof. Black are of the highest importance, no one will have the hardihood to deny. That they are finally conclusive even he will not probably claim, for he announces his determination to continue them. That there is a decided change in the character of freshly cut alloys, and even metals, we have long known, but the reason for it, and the exact nature of the mutations have not before been revealed. Many know that pure tin, when freshly cut as amalgam, is usually prepared, is quite cohesive, and that contour work, of little strength, however, can be readily done with it. A little time suffices to change all this, and the shavings of tin will no longer cohere. The same is true of gold. Freshly cut shavings from an ingot are very cohesive, but a little time changes that characteristic. This modification has usually been ascribed to oxidation, but in the light of Prof. Black's revelations it will be an interesting study to try upon the fresh shavings the effect of annealing.

New Inventions, &c.

A New Gas and Ether Inhaler.

The Design of H. Bellamy Gardner, L.R.C.P., M.R.C.S.,
Assistant Anæsthetist to Charing Cross Hospital.

This inhaler, manufactured by Messrs. Allen & Hanburys, of Wigmore Street, works on the principle of the expansion of liquid and vapour in a metal chamber, the heat being obtained from the administrator's hand.



The inhaler possesses the following advantages:—It has a very free breathing channel, 2 inches in diameter, which obviates any feeling of oppression accompanying the initial stages of anæsthesia; it contains 6 ounces of ether, which is sufficient for an hour's operation; it requires no change of inhaling bag during the induction of anæsthesia. In the filled condition it can be carried about without fear of leakage.

The inhaler has been used in more than seventy cases during the past six months, and has been found very suitable for dental as well as for general surgical work.

Miscellanea.

The Annual General Meeting.

We are asked to state that the Annual Meeting will be held in the Medical School of Trinity College, Dublin, during the week commencing August 16. It may be of interest to some of the members to know that the Dublin Horse Show, which is so justly celebrated, takes place during the following week.

A Non-Toxic Local Anæsthetic.

Mr. H. Jones, writing to *The International Dental Journal*, states that a hypodermic injection of eucaine, combined as follows, will give a satisfactory result:—

Eucaine hydrochlorate	0·8	grammes.
Hamamelis virginiana	7·8	,,
Glycerol	1·6	,,
Hydronaphthol sol.	0·129	,,
Guaiacol	0·129	,,
Strophanthin	0·013	,,
Aquæ dest.	19·5	,,
Saccharin ad grat.		

The point of puncture can be anæsthetised by touching the surface with a solution of trichloracetic acid, glycerol, and cocaine in the following proportions:—

Trichloracetic acid	1·296	grammes.
Glycerol	1·944	,,
Cocaine	1·620	,,

If the gums are healthy, they are not very sensitive, and the puncture may be made by making a firm pressure with the index-finger of the left hand and placing the needle at the edge of the point of pressure.

"Ourselves as Others see us."

The following remarks from the *Dental Practitioner* anent the last annual meeting of the Association are of interest:—

"There are about one-fourth as many dentists in Great Britain as in America; yet, at the last meeting of the British Dental Association, 318 signed the attendance book. In addition, there were fifty-eight visitors duly registered, among whom were representatives from America, Portugal, Holland, France and Germany, making a total, aside from the unregistered callers, of 376. The meeting was prolonged for an extra day, and was one of great interest. But it was a meeting of the British Dental Association alone. All interest was centred upon that, and no allied or other bodies were allowed to distract attention from it. At these meetings there are usually some exhibits by the larger dental supply houses, but one can go into the corridors about the hall without having some hanger-on draw him aside and, with mysterious air, pull from his breeches' pocket a patent gimcrack, warranted effective anywhere within range. He is not irresistibly told off to some exhibition-room, where is exhibited to him, and incidentally offered for sale, the latest triumph of science in the shape of a thingumbob, or process, that instantaneously throws in the shade and strikes dumb with amazement all the ' painless dentistry ' of a full quack generation."

Correspondence.

We cannot hold ourselves responsible for the views expressed by our correspondents.

A Factor in the Eruption of the Teeth, partly Mechanical, partly Physiological, hitherto unrecognised. Foreign Body Theory.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—It was with interest that I read Mr. Constant's paper upon "The Mechanical Factor in the Eruption of the Teeth," in the November issue of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION, and as the subject of "Eruption of the Teeth" has been brought forward, any light thrown upon this interesting subject is welcome. In my opinion—which will, no doubt, coincide with the opinion of other professional brethren—there are some points in Mr. Constant's paper which are new and, I might say, almost unique in "The Blood Pressure Theory." Without attempting to criticise this theory at present, I can only say that I do not think a purely mechanical factor alone can hold ground and run hand in hand with physiology at the same time. I would now like to offer a few remarks upon "tooth eruption" more in the way of suggestion than otherwise, now that this subject has been brought forward, and to offer a few ideas on the subject which have occurred to my own mind some time ago, and which, no doubt, will be new to many.

As an axiom I would say that which is well known to all—that nature casts off anything which is useless and effete. As is found in the case of all epidermal appendages, such as hairs, nails and teeth, these, when dead, decayed or useless are thrown off as being of no further use to the living individual. Teeth that are dead from whatever cause (from caries, death of the pulp), must be included in this category.

Going still further back, this is also found to be the case in dermal structures themselves, where the surface layer of cells is being continually discarded and thrown off and renewed from beneath. Still following up this process it will be found to apply to the dermal appendages, the temporary teeth which are found in lifetime of the growing child generally, and in the life history of the tooth in particular. As the time approaches for the shedding of and replacement of the deciduous teeth, these teeth will be found to lose their roots by a process of absorption and decalcification until such a time arrives that they have no roots left at all. As this absorption of the root proceeds, the tooth pulp, the principal seat of vitality of the individual tooth, is encroached upon, its disappearance follows also, and the deciduous tooth now—or what now remains of it, namely, the crown—lies useless in the mouth, cut off from all nourishment ; it is then shed—in other words, cast off as useless. In a state of nature this tooth is cast off, extracted by the child itself, or further, to assist nature and physiology, is extracted by the dental surgeon.

The subject of the retention of milk teeth I do not now enter upon, except to say that in this case a retained milk tooth is found to have its roots in perfect condition, no absorption of its roots having taken place, and other things all being equal, even though a permanent tooth be retarded or be prevented from erupting at all. This tooth takes upon it functions of a permanent tooth, and may remain performing such functions for many years. Another axiom I may lay down is this, that all dead dermal appendages may be said to act as foreign bodies, and as such are useless.

Now we know that when foreign bodies encroach upon or come within the limits of the living animal structure of an individual, the first necessary thing to do is to get rid of that body as soon as possible, and in so doing we simply copy mother nature herself.

I will now bring forward a partly mechanical theory which will be seen to be in accord with physiology itself.

It is this, that in the eruption of both deciduous and permanent teeth (and also in the shedding of each of these), a factor hitherto disregarded is brought into play, namely, that the teeth crowns (or enamel coverings of same) act to some extent as hard inorganic "foreign bodies," and in this way, in the case of permanent teeth forming below temporary teeth, acting conjointly with the processes of absorption of the roots of the temporary teeth, and the building up of the roots of the permanent teeth, they find their way to the surface in the direction of least resistance to their predestined place at the surface in the dental arch, where they take their place *in situ* for a certain period (more or less) until, in common with other appendages, they are cast off after having served their purposes of existence. In the case of temporary teeth erupting in the first instance, the temporary tooth crowns find their way upwards with little opposition to their upward progress, as in the same way do the permanent tooth crowns, which erupt more posteriorly in the dental arch and have no temporary predecessors.

The "partly mechanical force" I have alluded to as very possibly existing in conjunction with the "foreign body" theory is not a purely mechanical force (such as the "blood pressure" theory seems to be), for the reason that this force is modified by the existence of a living tooth pulp (a distinct organ in itself), as it is also modified by the existence of a distinct building-up process of tissue formation in the shape of deposition of lime salts to form the root of the up-growing tooth.

If we take the eruption of a milk tooth, for example, we will find in its life history that the crown of the milk tooth has attached to it a living pulp ; the crown may be said to act to some extent as a foreign body, or, more properly speaking, the enamel covering of the crown may be said to do so. As the crown approaches and rises to the surface, the pulp also rises with it, all the time the roots of the tooth are being formed in a downward direction ; by the time the crown has erupted (or cut the gum), the tooth may be said to be fully formed, and the tooth is now a full-grown appendage. Following up the life history of the milk tooth still further, it will be seen that the next stage to follow is the absorption of the roots taking place with the commencement of the eruptive process of the permanent tooth to follow, and as the milk roots disappear or recede, so the permanent tooth rises to take their places, lengthening its own individual root at the same time, as did the temporary tooth before it. This process goes on until nothing of the milk tooth is left but the crown, which is then shed, making room for the permanent successor, such a one as succeeds to take its place in the dental arch.

It is needless to say that some permanent teeth of course break new ground (as it were for themselves). Once that living organ, the tooth pulp, is dead or absorbed, the rootless deciduous tooth becomes a foreign body, and it is then rejected from the system. In the case of a deciduous crown having been destroyed by caries, with consequent loss of the pulp, any roots, pieces of root lying in the gum of the dental arch act as foreign bodies pure and simple, and are also thrown off. So also are thrown off any roots of permanent teeth, as also deeply embedded roots of permanent teeth broken off in extraction, or left in position as the result of caries ; these two latter will be shown to act as foreign bodies, as in course of time they gradually rise to the surface; and this tendency to a rising in their sockets may be seen also in the case of excised teeth over which artificial dentures have been placed, which in the course of time have needed re-excising or smoothing down level with the contiguous gum margin.

From the foregoing remarks, it has been my purpose to show that in the eruption of teeth, deciduous and permanent, there is a certain factor at work which may be said to be a "partly mechanical factor," inasmuch as the erupting tooth (or, to be more precise, the enamel covering of the erupting crown) exerts this influence, or the result in the end seems to be exerted in this manner, and is closely allied, or may be said to be similar to the action resulting from the presence of inorganic foreign bodies upon living vascular tissue. This partly mechanical factor does not act alone as such, for there is combined with it a physiological factor shown to exist by the presence of the living tooth pulp attached to the subjacent dentine structure of the enamel crown covering of the erupting tooth.

The mechanical factor alone will be found to exert its influence in such cases of foreign bodies as dead roots, splinters and fragments of milk and permanent teeth, splinters of bone in other parts of the body, pieces of dead alveolus, fragments of metal, glass, bone, thorns, needles, small shot, bullets, &c., embedded in the tissue, elsewhere in the living animal structure, or individual. Here it will be found that nature repels the introduction of foreign bodies, and she rejects them accordingly because they bring to bear on her their mechanical factor which she repels in her own way.

J. D. Ross-Watt, L.D.S.Edin., L.R.C.P., L.R.C.S.Edin.

The Unregistered Practitioner.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

Sir,—Advertising, covering, "the unregistered practitioner," are the three grave questions the dental profession have to face. It has been standing face to face with them since its inception, but very little, comparatively speaking, has been done.

Grave as these three subjects are, I think "the unregistered practitioner" is the most important for the following reasons: (1) One unregistered practitioner begets others, and often trains them; (2) you cannot expect a registered dentist to cease from advertising if you cannot stop the unregistered from practising dentistry; (3) with a few exceptions dentists do not advertise from choice, but because they are forced to it by the mushroom dental concerns that spring up around them.

In my opinion it would be better far to settle one question at a time; if it is for want of funds the British Dental Association cannot put "the Dentists Act" in force against all unregistered men, whatever style or title they adopt, let them invite the co-operation of all dentists on the Register, they will soon have funds to carry every case to a successful issue.

"The Dentists Act" is strong enough to stop and punish any person or company, no matter what words they use, if it is put into force and carried through to the higher courts or House of Lords if necessary. Stipendiary magistrates seem to have no difficulty in putting a proper construction on it and convicting. It is only the unpaid gentry who are likely to misconstrue it. The remarks that have fallen from judges and stipendiary magistrates give every assurance that the Act will be supported and upheld by them in its broadest sense.

I have said the unregistered man begets others and often trains them. This is patent to all. I know of dozens of cases. One case comes to my mind as I write :—The brother-in-law of a registered dentist carried on a practice under that dentist's name and flourished fairly well. Taking a walk around some docks a few miles from where he practised, he met a respectable dock labourer, whom he ultimately persuaded to pay him a sum of money (£30) to teach him to be a dentist. The ex-dock labourer is practising dentistry at the present time, and evidently to his extreme satisfaction. The brother-in-law of the dentist, for reasons better imagined than described, removed to another town (where there are some very large docks) some three or four years ago. I should not be surprised if he had converted a whole army of dock labourers into dental practitioners by this time. I am certain he would do so on the same terms. This sort of thing alone shows conclusively that the unregistered practitioner should receive exclusive attention at present.

I have also said you cannot expect a registered dentist to cease from advertising if you cannot stop the unregistered man. Dentists in first-class practice in fashionable places have no ideal of the trials of their less fortunate brethren, who are striving all they can to act up to professional etiquette. As an illustration I will relate an experience of my own. Two years ago I was in practice in a large manufacturing town ; ill-health and severe competition (I could throw a stone to seven doors where dentistry was practised, lawfully and otherwise) caused me to sell out, and I commenced practice in a very small country town, no dentist being there. Two months after I started a Limited Company opened a branch there, and scattered bills about periodically, insinuating that dentists were extortioners, &c., but this company were philanthropists and supplied a complete set of teeth inlaid with gold for forty shillings, though to my certain knowledge they have charged as much as fourteen guineas for a black vulcanite set of teeth with a bit of gold spring wire inserted (on the surface as much as possible). A chemist in a neighbouring town also I have to contend with—an unqualified and unregistered practitioner who styles his place a dentorium and a dental depot. One would think that my cup was about filled, but no. At a town I visited twelve miles away (a very small one, where there was also no dentist) every week on market day, I had commenced perhaps two months, when a gentleman (save the mark) called on my landlady, asking for rooms, explaining to her that he was a dental surgeon, &c., and was a step higher than me; suiting action to words, he did the same thing to several of the tradespeople. He left his name ; so I went at once to the Registrar of the County Court, obtained the loan of the Dentists Register, and found this superior individual had obtained his L.D.S.E. eleven months previous to this. *En passant* I may say I am a *bona-fide* registered dentist of twenty-seven years' experience, many of which were spent as principal assistant to first-class London men holding the highest qualifications. Moreover, I have endeavoured to keep myself up-to-date, and if I ever do go in for a diploma it will be one worth having, and I shall not go to Dublin for it. I simply ask any man, even the greatest glutton for professional etiquette, could he blame me if I started to advertise right and left—and then etiquette to the winds. I daresay others have had the same experience and provocation.

In the last place, dentists do not, with few exceptions, advertise from choice, but are forced to it, &c. There is more illegal practice to-day than ever, and many dentists advertise to keep pace with the quacks who surround and overshadow them, with their lying bills and advertisements. Stamp out illegal practice, and advertisement by dentists will cease as sure as night follows day.

Advertising does not pay in dentistry unless it is done on a large scale, and fraud, swindling, and rascality has to be associated with it even then. If a cabinet-maker, jeweller, or other tradesman advertised and carried out their business as some dentists do I could name, I think there would soon be a case, or rather a charge, of obtaining money by false pretences. It would interest many to hear what defence a man could make who advertises a set of teeth for a few shillings precisely the same as other dentists, &c., and charges as many pounds or guineas for a common set of diatoric teeth with a piece of tinsel imbedded in them, upon decayed and inflamed roots. Whatever it might be, I do not think it would convince a judge or jury.

Apologising for the length of this letter,

I am, sir,
Yours truly,
A REGISTERED DENTIST.

Dental Prosecutions at Brighton.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—As I have been asked by so many, if the above Association were connected in any way with the Brighton dental prosecutions, allow me to state that the British Dental Association had *absolutely nothing* to do with the cases. The registered dentists in Brighton were the prosecutors.

I am, yours, &c.,

Brighton. JAMES F. RYMER.
February, 1897.

A Case of Aneurism.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—The fact that you consider this case sufficiently interesting to reprint in the February number of your Journal at once arouses your reader's careful perusal, and, consequently, if the statements therein are conflicting, his thoughtful criticism. The whole interest in the case rests on the fact that the tumour is declared to have been an aneurism.

The account states the presence of "an abscessed superior lateral incisor, which from time to time became sore, followed by a tumour in the dome of the oral cavity, which continued to increase during periods of varied duration. At times it would disappear, or nearly so, to be followed by the same phenomena after intervals of three or four months, longer or shorter. . . . fluctuation was distinctly manifested, but pulsation could not be detected."

The diagnosis of aneurism is based on the flow of blood which followed an incision—an incision which it is distinctly stated did not open the sac.

How can the flow of blood from an incision which did not open the sac be diagnostic of an aneurism?

The extent of the hæmorrhage which occurred is not stated; but an incision through the congested tissue surrounding an abscess in such a vascular part as the palate would necessarily be considerable.

Again, there is the absence of pulsation, the important sign of aneurism, excepting in the diffuse traumatic form, to which class, from the history given, this clearly could not have belonged.

There is, also, no account of pain, usually so intense in aneurisms.

Later, in describing the treatment, the author states that the "*entire inner surface* of the sac was wiped out with equal parts of the tincture of iodine and a 95 per cent. solution of carbolic acid."

Then, evidently, the sac must have been opened in the treatment, and without the alarming hæmorrhage which would have occurred from an aneurism; at least, no record is made of such hæmorrhage.

This treatment of aneurism has not hitherto been generally attended by the favourable result which is reported in this case; but, assuming the swelling was inflammatory, such treatment would be efficient.

The history given of the repeated occurrence, followed by a subsequent subsidence of the swelling, points rather to inflammatory formation; it is unlikely that an aneurism would form, then undergo spontaneous recovery in the manner reported.

Of course, it is impossible for anyone who did not see the case to contradict the diagnosis, but at the same time, when it is published, complete evidence should be given to place such a conclusion beyond dispute.

I am, dear sir,
Yours faithfully,
ERNEST PARSONS.

27, *Welbeck Street, W.*
February 17, 1897.

Edinburgh Dental Examinations.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

SIR,—I had the favour of a few lines being inserted in your issue of last month, correcting the erroneous impression, that no second course of anatomy was required in the dental curriculum of the Royal College of Surgeons of Edinburgh. Will you now kindly allow me to correct another mistake made in this month's issue, where it is stated (p. 69) regarding the licensing authorities, "Those at Edinburgh do not appear disposed either to include Dental Histology or to alter their method of examining in Mechanical Dentistry." In the reply of the College to the Inspector's Report, it is emphatically explained (p. 4) that "Histology, general as well as special, does usually form a part of every examination, being included both in the written and oral examinations in general and in dental physiology;" while in the synopsis of subjects of examination given at p. 12 of the Regulations by the College for dental candidates, "An elementary knowledge of general histological structures" is specified as being required of all candidates, and it is questionable whether, so far as pathological microscopy is concerned, the morbid dental structures examined upon micrographically by certain members of the board are surpassed at any examination in the kingdom.

In regard, again, to altering the mode of examining, as above referred to, in mechanical dentistry—so long as the examination is substantively effective the method adopted is really immaterial; but here again an oversight seems to have been made, since the reply states with equal distinctness that "The President and Council have pleasure in giving every consideration to suggestions for the improvement of the examinations."

May I add that the system of marking, which is also criticised, has long ago, and over and over again, been maturely considered by the Royal College of Surgeons of Edinburgh in its application both to the General, and the Dental Examinations; five of the eight dental examiners of the College are also examiners for the full qualification, and most of them of long experience—longer than any experience possible to have been gained at the dental Boards—so that every confidence may be placed in their method, whether of examining or marking for the dental diploma, as being that best fitted for doing justice both to the examiners and the examined.

I am, &c.,
J. SMITH, M.D., LL.D., F.R.C.S.Ed.,
Examiner to the General and the Dental Board of the Royal College of Surgeons of Edinburgh.

Defective Platinum Pins.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION.

DEAR SIR,—My letter on the above subject in the January issue of your JOURNAL has elicited much valuable information from victims of these most annoying mishaps, and a considerable number of specimens, but not enough of the latter to yield a quantity of the arraigned metal sufficient for a minute assay.

I would, therefore, ask your readers to send me as many specimens as they can obtain, with particulars, if possible, of porcelain teeth, the pins of which have broken short off at the back without apparent reason.

I am told that within the last few years many dentists about the midland counties were suffering greatly from this annoyance, so that there should be many specimens available from that part of the country. If they have been kept they would be of great assistance in our research.

10, *Hume Street*, *Dublin.* Faithfully yours,
March 4, 1897. GEO. M. P. MURRAY.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I have been informed that it is necessary to undertake the collection of, at least, 100 grains of the defective platinum before any analysis can be made of it. I have also heard that the defect is caused by iridium, not zinc. A number of specimens have come to hand, mostly in vulcanite bicuspids and molars, and one contributor has been kind enough to saw out the fractured pins and send them with the tooth. I trust that the members of the British Dental Association will be so kind as to place at our service any fractured pins, so that we can select as many as possible with the crystalline fracture I have described. The defect is widespread and is a serious one for all of us. It will be well, therefore, that my committee should have every possible help in the investigation our members throughout the country can give us.

I am,
13, *Upper Merrion Street*, *Dublin.* Yours faithfully,
March 4, 1897. W. BOOTH PEARSALL.

Is Bowspring an Irritant? Why does Black Rubber become Porous?

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I should be very much obliged if some kind friend would advise on the following case :—A young woman who works in a lace warehouse came to see me some time ago, perhaps a year. She was attending a surgeon also for diseased bone in the nose—not specific—and she is now having the electric cautery to it. I put her in a suction upper of bowspring rubber. In a short time there was considerable redness under the area of the plate and it became very uncomfortable. I re-made the plate to a model taken in plaster thinking it might not fit quite accurately as she had previously had a number of teeth out. The second plate was no better. Years ago it was thought that in some cases the oxide of mercury which formed the colouring matter of some of these rubbers was the irritant, but it was held by others that this being so intimately mixed with the vulcanite could not in any degree contribute to the inflammation. I remember two similar cases, one of which had six vulcanite sets made ; the inflammation produced by them was finally conquered by the insertion of a bone set, there being much absorption ; this was specific. The other was relieved by having a gold upper, the non-conducting material of the vulcanite retaining the heat.

But the present case is a working girl not able to afford such expensive work. I therefore made, a week ago, another suction upper in black vulcanite. To my gratification to-day there is no redness and she is quite comfortable ; query, then, what is the irritant in the bowspring?

This black rubber is very troublesome in respect of its liability to become porous, and I have had great difficulty in making the plate tolerably decent. What is the reason of this? It was cooked just the same time as the bowspring and pink wings and front—one hour and twenty minutes at 320°, on a tin model counter dried, and not boiled to screw down. Why should it become porous, and what is the remedy?

I hope you may think this case of sufficient interest to allow it a small corner in your Journal.

I am, sir,
Your obedient servant,
HENRY BLANDY.

P.S.—The girl has not been taking any mercurial preparation, or medicine of any kind.

Books Received.

DENTAL SURGERY FOR MEDICAL PRACTITIONERS AND STUDENTS OF MEDICINE, by A. W. Barrett, M.B. (Lond.), M.R.C.S.E., Consulting Dental Surgeon to the London Hospital, and late Lecturer on Dental Surgery in the Medical School; Examiner in Dental Surgery to the Royal College of Surgeons, England. Third Edition, with illustrations. *London:* H. K. Lewis, 136, Gower Street, W.C., 1897.

TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION, at the Thirty-sixth Annual Session, held at Saratoga Springs, N.Y. *Philadelphia:* The S. S. White Dental Manufacturing Co., 1897.

A PRACTICAL TREATISE ON ARTIFICIAL CROWN AND BRIDGE WORK, by George Evans. Fifth Edition, Revised, with 625 illustrations. *Philadelphia:* The S. S. White Dental Manufacturing Co., 1896.

COMPEND OF DENTAL PATHOLOGY AND THERAPEUTICS, by Henry H. Burchard. *Philadelphia:* The S. S. White Dental Manufacturing Co., 1896.

AIDS TO THE STUDY OF BACTERIOLOGY, by T. H. Pearmain and C. G. Moor. *London:* Baillière, Tindall & Cox, King William Street, Strand, 1896.

La Odontologia, The Dental Register, The International Dental Journal, The Dental Digest, The Dental Review, Le Progrès Dentaire, Revue Odontologique, The Bur, Pediatrics, The Texas Dental Journal, Archives Nationales Stomatologie et d'Art dentaire, The Cambria Daily Leader, Items of Interest, The Mason College Magazine, Magyar Fogaszate Szemle.

Letters and other Communications received from :—

The Registrar of the Royal College of Surgeons in Ireland; Ernest Parsons; S. A. Coxon; R. Edwards; Dr. J. Smith; H. Percy Jocelyne; The Cox Thermo-Electric Co., Limited; W. Booth Pearsall; T. A. Goard; G. P. Murray; Secretary of the Scottish Branch; J. P. Headridge; Richard Rendle; J. Stephenson; F. V. Richardson; H. Blandy; D. Schaffer-Shubert; A. T. Hilder.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 4. APRIL 15, 1897. Vol. XVIII.

Finance.

THE balance sheet of the present year, which may be found by the curious on pp. 212, 213, shows many very interesting features, some of which may be becomingly emphasised in a leading article, while others our modesty compels us to leave to the reader to discover for himself. It is a very clear and readable balance sheet (not at all like that historic one that called forth the comment that there were three degrees of mystery—a mystery, a —— mystery, and *a balance sheet*) ; anyone may understand it and compare it with its predecessors ; therefore, secure in the assurance that our readers will discover it unaided, we refrain from drawing their attention to the fact that a slight deficit on the general account is swallowed up by a handsome balance on the *Journal* account. This is no small matter, for as our illustrations increase in expense as well as excellence, there must have been wonderfully little waste, and many other less sensitive journals would have boasted of such a creditable fact.

One of the large items of expenditure is, of course, the lawyers' bill, but the chief wonder here is not the amount we spend, but the extraordinary amount we get for our money. It is difficult to express exactly what this value consists of; it is not alone in the large measure of success in numbers of convictions (in which point we compare very favourably with our neighbours), nor entirely in the points established in each case, but it lies also in the skilful emphasising of our legal rights and powers by counsel on each occasion—in fact, in the gradual education of the legal profession as well as public opinion with regard to our Act and its scope. Twenty-five cases at an average of £11 a-piece is a marvel, and shows how watchful and unremitting must be the care of our office-bearers in avoiding waste, and how fortunate the Association is in its legal advisers. We are learning by experience, slowly it may be, but surely, and when we reflect that it is not an unusual experience for societies not dissimilarly situated to our own to find their legal bill come out at about four times as much per case, we may well feel satisfied. This item is further decreased by a contribution made by the Cardiff dentists towards the expenses of local prosecutions; and although this does not decrease the cost of each case, it lightens the drain on our funds. We incline to the opinion that it is better that local prosecutions should be carried on by the parent Society, as by this means the cry (so often raised) of "local jealousy" is silenced, and the prosecution is strengthened by the added prestige of being conducted by a large association free from local or personal prejudices.

The London meeting was an expense, but here again there was no waste, and it is inevitable that meetings in the metropolis must be very largely attended. The last meeting was attended by over 300 members, and over 400, counting ladies and visitors; so that the expense, *pari passu*, is creditably small.

On the whole what we have spent has been wisely and well spent—in fact, may almost be regarded in the light of investment—while on every hand and in each department increasing experience has resulted in increasing economy; the Association has neither been guilty of cheese-paring nor of foolish extravagance.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

THE ANNUAL GENERAL MEETING of the British Dental Association will be held in the Medical School Buildings of Trinity College, Dublin, on Tuesday, Wednesday, and Thursday, August 17, 18, and 19 next.

Members desirous of reading papers or giving demonstrations are requested to communicate with the Honorary Secretary, 40, Leicester Square, London, W.C.

W. B. Paterson.
Honorary Secretary.

Representative Board.

A MEETING of the Representative Board was held at 40, Leicester Square, London, on April 3, 1897. The following members were present—Mr. J. H. MUMMERY, President, in the chair; Messrs. J. Ackery, Storer Bennett, F. Canton, W. H. Dolamore, W. Hern (Treasurer), Lawrence Read, J. Smith Turner and W. B. Paterson, Hon. Sec. (London); Messrs. A. T. Hilder, Breward Neale and F. W. Richards (Birmingham); A. A. Matthews (Bradford); J. H. Redman and F. V. Richardson (Brighton); A. H. Smith (Boston); G. Cunningham, R. P. Lennox and W. A. Rhodes (Cambridge); T.

THE BRITISH

Dr. RECEIPTS AND EXPENSES ACCOUNT FOR

GENERAL ACCOUNT.

1895. £	s.	d.		£	s.	d.	£	s.	d.
30	0	0	To Rent (one year)	30	0	0			
50	0	0	,, Secretary, Salary (Mr. Pink), one year	50	0	0			
6	6	0	,, Audit of 1895 Accounts	6	6	0			
77	14	0	,, Legal Expenses (25 cases)	275	1	8			
138	16	7	,, Expenses of Annual Meeting ...	179	2	2			
74	16	11	,, Stationery and Printing	67	2	2			
31	11	4	,, Postages, Directories, Registers, Gratuities and Sundries	45	17	10			
							653	9	10

ASSOCIATION JOURNAL ACCOUNT.

£	s.	d.		£	s.	d.	£	s.	d.
619	17	10	To Printing and Publishing	606	2	5			
32	2	0	,, Reporting at Annual and Branch Meetings, and other Societies ...	37	18	4			
100	16	0	,, Editor's Salary	100	16	0			
6	5	7	,, Sundries	9	6	5			
							754	3	2
							1,407	13	0
14	6	11	,, Balance forward, Surplus on Association Journal Account	41	3	1			
			Less Deficit on General Account	5	7	3			
							35	15	10
							£1,443	8	10

Dr. BALANCE-SHEET,

	£	s.	d.	£	s.	d.
To Creditors:—Messrs. Bowman and Crawley-Boevey	238	7	7			
,, Sundry other Sums outstanding ...	27	13	3			
				266	0	10
,, Balance from last Account	912	10	11			
,, Balance brought down	35	15	10			
				948	6	9
				£1,214	7	7

DENTAL ASSOCIATION.

THE YEAR ENDED DECEMBER 31ST, 1896. **Cr.**

	£	s.	d.	£	s.	d.	1895. £	s.	d.
GENERAL ACCOUNT.									
By Subscriptions	939	15	0				905	12	6
Less One-third taken to Association Journal Account below	313	5	0				301	17	6
				626	10	0			
By Interest on Sum on Deposit at London and County Bank ...				2	13	5	3	9	0
,, Dividend on India Stock				8	9	2			
,, Contribution from Cardiff Dentists towards Legal Expenses in local cases				10	10	0			
				648	2	7			
ASSOCIATION JOURNAL ACCOUNT.									
By One-third of Subscriptions, as above	313	5	0				301	17	6
,, Advertisements	428	8	10				416	19	5
,, Sale of Copies	53	12	5				54	11	5
				795	6	3			
				£1,443	8	10			

JANUARY 1ST, 1897. **Cr.**

	£	s.	d.	£	s.	d.
By Cash at Bankers—on Deposit ...	200	0	0			
,, ,, ,, on Current a/c ...	185	19	1			
,, ,, with Treasurer...	2	7	6			
				388	6	7
,, £500 India 3½ °/₀ Stock				596	17	6
,, Debtors:—Messrs. Baillière, Tindall and Cox				229	3	6
				£1,214	7	7

We have written up the above statement and balance-sheet from the books and vouchers of the British Dental Association, and certify that they are correct. We have also seen the certificates and vouchers for the cash and investment.

J. W. BUTCHER & CO.,
Chartered Accountants and Auditors,
18, Bishop's Road, W.

March 8th, 1897.

T. Genge and W. Helyar (Clifton); J. S. Amoore (Edinburgh); H. B. Mason (Exeter); Rees Price (Glasgow); T. Gaddes (Harrogate); J. C. Storey (Hull); G. Brunton (Leeds); I. Renshaw (Rochdale); F. Harrison (Sheffield), and W. E. Harding (Shrewsbury).

The minutes of the last meeting were read, and with one mino alteration confirmed.

Letters were received from Sir Edwin Saunders, Messrs. Bowman MacLeod, L. Matheson, G. M. P. Murray, T. A. Goard, S. Spokes, W. H. Woodruff, regretting inability to attend.

Sir EDWIN SAUNDERS, in his letter, expressed himself pleased with the Executive's management of the affairs of the Association, and with the prosperity indicated by the balance sheet.

Mr. BOWMAN MACLEOD, referring to the Association's recent successful legal cases in Edinburgh, said that the effects had been salutary, and would be much more so when the judgment of the court below had been confirmed.

The election of a member to the Business Committee was proceeded with. Mr. Renshaw was proposed by Mr. REES PRICE and seconded by Mr. COFFIN.

Mr. RENSHAW said that his office of Hon. Secretary of the Midland Branch was drawing to an end. He had served a good apprenticeship already upon the Business Committee in the seven years he had been attending it, and would now prefer to make room for another man.

Mr. SMITH TURNER heartily supported the nomination, and trusted Mr. Renshaw would waive his preference and continue to assist the Committee with his great experience of men and matters in the north.

The PRESIDENT agreed with Mr. Turner that in Mr. Renshaw the Committee had a help which was like a mine of wealth to them when discussing local matters connected with his Branch district.

The proposal was carried unanimously, and Mr. Renshaw briefly returned thanks.

The balance sheet of the Association for 1896 was introduced by the Treasurer, who explained that it had been presented to the Journal and Finance Committee, after it had been through the hands of the public auditor, and had been approved of by that committee. He (Mr. Hern) was glad to make his *début* as their Treasurer with a balance sheet which, notwithstanding the great increase in the law costs and the fact of the annual general meeting taking place in London during the year, showed them that the Association was solvent. He pointed out that the law costs were £200 more than in the preceding year, and the expenses of the 1896 meeting £40 more than the 1895 meeting, which sum was not great when it was remembered that there was more than double the number in London than in Edinburgh last year. He felt assured that all would welcome the £41 surplus profit on the

Journal account. It was in 1895 that the Journal first began to pay. The present increase of profits was not due to the slightest stint in the matter of pages, printing, or illustrations. The last-named, in fact, had been increased. The slight deficit on the general account, from the causes he had before mentioned, was thus more than balanced.

With regard to the Reserve Fund, he was naturally anxious, as a Treasurer, to keep it as high as he could, and should strive to reach his predecessor's standard of £1,000 at the earliest opportunity.

He did not think the other items of the balance sheet of sufficient importance to call for detailed notice, and he therefore should conclude his remarks by submitting the balance sheet for their consideration and approval.

Mr. LAWRENCE READ had much pleasure in moving that the balance sheet be received and adopted. He considered that the results of the Association's work and expenses for the year had been very satisfactory. If he might offer a suggestion, he would like to see the figures of the balance sheet of the preceding year printed alongside those of the present year, wherever practicable.

Mr. RENSHAW seconded, and invited the Publishing Committee to increase the size of the Journal.

Mr. REES PRICE wished to know if the Association Account and the Journal Account were kept separately, and whether the loss on the latter account up to 1895 had been made good out of the former. He drew attention—from a desire for uniformity—to a slight discrepancy in the use of the terms "Dr. and Cr." in the two last balance sheets.

Mr. STOREY asked the basis of giving one-third of the subscriptions of members to the Journal Account.

Mr. RICHARDS asked if the Stationery and Printing Account included that required for the annual meeting, and also if it was not possible to invest a further sum of £500 from bank moneys.

Mr. HERN, in reply, said he would see what could be done in carrying out the suggestions offered, and for which he was obliged.

The Association and Journal Accounts were separated on the balance sheet only. The goodwill of the Journal was finally written off in 1895. He proposed to keep to the use of the terms "Dr. and Cr." as advised by the firm of chartered accountants which audited the balance sheet. He was aware of the discrepancy mentioned by Mr. Rees Price.

With regard to the increased size of the Journal, that would mean increased postage, and already the postage of the Journal amounted to £80. The one-third share to the Journal referred to was in vogue long before his time, and he was not aware of any alteration on this point. The printing and stationery of the annual meeting belonging to the Association was included as stated. He could not promise to invest so large a sum as suggested, or any sum, at the present moment.

Mr. GADDES said that the Journal could, by an increase of size, be enlarged practically to three pages, and at no extra postage.

Mr. SMITH TURNER said that he should be happy to convey the useful suggestions of Mr. Gaddes and Mr. Renshaw to the Publishing Committee.

The motion that the balance sheet be received and adopted was then carried *nem. con.*

Mr. HERN proposed and Mr. REES PRICE seconded the payment of the usual fee to the auditors, which was carried.

The HON. SECRETARY read a report from the Hon. Secretary of the Irish Branch upon the arrangements in progress for the annual general meeting in Dublin.

Mr. AMOORE moved that the date of the meeting be fixed for Tuesday, Wednesday and Thursday, August 17, 18 and 19, and that the annual dinner be held on Thursday, August 19.

Mr. READ seconded. The motion was carried *nem. con.*

The PRESIDENT mentioned the case of Edward Foster, and it was decided to report the same to the General Medical Council.

Other matters reported by the Business Committee were considered and disposed of, and the meeting then adjourned.

Central Counties Branch.

PRELIMINARY NOTICE.

AT the last meeting of this Branch, held on Thursday April, 1 (a report of which will appear in the next issue), it was decided to hold the Annual Meeting on Friday and Saturday, July 9 and 10.

Friday, July 9, 6 p.m.—Council Meeting.

6.30 p.m.—Annual General Meeting for Addresses, Elections, &c.

7.30 p.m.—Annual Dinner.

Saturday, July 10, 9.30 a.m.—Demonstrations, Papers, &c., at the Dental Hospital.

12.20—Train to Stratford-on-Avon ; lunch there and afterwards have a drive round Charlecote.

The Friday evening and Saturday morning meetings will be in Birmingham.

The Hon. Sec. will be glad if members who will give papers or demonstrations will kindly send in the particulars at once to him.

83, *Edmund Street,*
Birmingham.

A. T. HILDER, *Hon. Sec.*

Metropolitan Branch.

THE next meeting will be held on Wednesday, the 28th inst., at 40, Leicester Square, at 8 p.m. Mr. R. W. Turner, barrister-at-law, has accepted an invitation to make a communication upon Clause III. of the Dentists Act, and its working.

W. H. DOLAMORE, *Hon. Sec.*

Western Counties Branch.

THE spring meeting of the Council of the above Branch will be held at the Royal Hotel, Ross, Herefordshire, on Saturday, May 1, at 3 p.m.

At 4.30 p.m. an ordinary meeting of members will be held. Any member having any communication to bring forward is requested to write to the Secretary.

T. ARTHUR GOARD, *Hon. Sec.*

Midland Branch.

THE Seventeenth Annual Meeting of the members of this Branch will be held in the Municipal Technical School, Rochdale, May 13, 14 and 15, 1897.

ORDER OF PROCEEDINGS.

Thursday evening, May 13, 8 p.m.—The Council meeting will be held at the Rochdale and District Reform Club.

Friday, May 14, 9.30 a.m.—Demonstrations held in the Municipal Technical School, Nelson Street, kindly granted by the Authorities for the occasion :—

Room No. 8.—"Fixing a piece of Removable Bridgework," by C. RIPPON, L.D.S. ; "Fixing Porcelain Inlays in Front Teeth," by G. O. WHITTAKER, L.D.S. ; "Fixing a Bonwill Crown," by F. MORDAUNT, L.D.S. ; "Röntgen Rays," by T. W. F. ROWNEY, L.D.S.

Room No. 9.—"How to Make an Electrical Tooth Crown Furnace," by S. MITCHELL ; "How to Make a Regulation Plate without Flasking," by G. BRUNTON ; "How to Make and Fix Pivot Teeth and Fix Crowns," also "Different Systems of Regulation Plates," by J. C. BIRCH, L.D.S. ; "How to Make Gold Collar Tube Crowns," by A. B. WOLFENDEN, L.D.S.

Plumbers' Laboratory.—"Crown Making with Gartrell's Improved Furnace," by E. P. COLLETT, L.D.S. ; "Continuous Gum Work with Gartrell's Furnace," by W. SIMMS, L.D.S. ; W. DALL, L.D.S., Glasgow, will show his New Tooth Crown Furnace.

11 a.m.—Annual General Meeting in the Chemical Theatre, Technical School. Business—Reading Hon. Secretary's and Hon. Trea-

surer's Reports. Election of Officers—viz., President, Hon. Treasurer, Hon. Secretary, Vacancies on Council, Representative to Representative Board, Scrutineers and Auditors. Time and place of next Annual Meeting. Time and place of next Informal Meeting.

Mr. Thomas Murphy has given notice that he will move :—"That the Annual Subscription be advanced to 7s. 6d., and that the sums accruing from the additional 2s. 6d. be held in reserve, as a fund from which to assist the Association in meeting the expenses of prosecutions taken by the Association against offenders violating the Dentists Act within the area of the operations of the Midland Branch."

12.15 p.m.—The President, Mr. Frank Harrison, M.R.C.S., L.D.S., will give his Valedictory Address. Mr. I. Renshaw, L.D.S., President-elect, will then take the chair and deliver his Inaugural Address. His Worship the Mayor of Rochdale, Councillor John Turner, Esq., will give a welcome to the visitors to the town.

1 p.m.—Adjournment. The members and ladies are invited to luncheon in the Assembly Room of the Rochdale and District Reform Club, Drake Street (distance 100 yards).

2.30 p.m.—Chemical Theatre, Technical School. Casual Communications (if time). Discussion on the Demonstrations.

Papers.—(1) "The Prosthetics of Dental Mechanics," by A. COCKER, L.D.S.; (2) "The Mechanical Training of Dental Students during their Pupilage," by Mr. GEORGE CUNNINGHAM; (3) "How we can best Assist the Association in Maintaining the Provisions of the Dentists Act," by Mr. T. GADDES, L.D.S.

Discussion on Papers.

Votes of thanks to the Authorities for the use of the Technical School, and to the Committee of the Rochdale and District Reform Club for their hospitality.

6.30 p.m.—Annual Dinner in the Assembly Room of the Rochdale and District Reform Club. Tickets 7s. 6d. each, exclusive of wines.

8 p.m.—Mrs. Renshaw invites the lady visitors to a "Reception" in the Reading Room of the Reform Club, kindly granted for the occasion. Music. Refreshments.

Two dressing-rooms will be provided at the Reform Club for members staying to the Dinner, and for ladies attending the "Ladies' Entertainment" who cannot get hotel accommodation in the Town. Late trains to Manchester—10.30 p.m., 11.39 p.m.

Saturday, *May* 15.—An excursion has been arranged to Hardcastle Craggs. The party will leave the Town Hall Square, Rochdale, at 10 a.m., and will proceed in carriages over Blackstone Edge, 1238 feet (a portion of the Pennine Range). During the ascent the party will cross the moors a few hundred yards, to view a section of the Old Roman Road, permission having been granted by the Steward to the Lord of the Manor.

The party will then proceed *via* Cragg Vale to Hebden Bridge, where the President and Mrs. Renshaw invite the members and lady friends to luncheon at the White Horse Hotel at 1 p.m.

After luncheon visits may be paid to Hardcastle Cragg (distance 2½ miles), or to the old village of Heptonstall, 1½ miles away, where may be seen the Old and the New Church in one Churchyard, the former being in ruins.

5 or 6 p.m.—Return drive to Rochdale, along a pretty valley between the hills, *via* Todmorden, arriving in Rochdale in time to get trains homewards.

This drive, which includes mountain, moor, and dale, is 28 miles in extent. Tickets for conveyances 4s. each.

NOTES.

The Committee of the Rochdale and District Reform Club have passed a resolution electing the members of the Midland Branch Hon. Members of the Club during their stay in Rochdale, and they will be entitled to all the privileges of ordinary members.

The hotel accommodation in Rochdale being very limited, it is suggested that hotel accommodation be procured in Manchester, there being a good service of trains to and from that place.

P.S.—Each member will be entitled to a Lady's Luncheon Ticket in addition to his own, but extra tickets must be paid for.

It is urgently requested that members will fill in and return their Reply Post Cards not later than May 7, in order that adequate arrangements may be made.

Hotels.—Wellington, White Swan, The Albion, The Crescent Temperance Hotel.

87, *Drake Street*, I. RENSHAW, *Hon. Sec.*
Rochdale.

The Clinical Research Association.

The annual report of the Clinical Research Association, a body which has only been in existence for a little over two years, shows that during the last twelve months 7,227 specimens were submitted for examination, of which 1,710 were chemical, 3,804 bacteriological, and 1,532 histological. These figures represent an enormous amount of work, the value of which as a means of establishing diagnosis, and so of facilitating treatment, cannot be too highly estimated. A new department has been opened for medical photography, including X-ray work, and a portable sterile swab for obtaining and transmitting material from the throats of patients suspected of suffering from diphtheria has been devised, and is supplied gratuitously on application.

Original Communications.

Small Helps in Every-day Practice.*

By A. T. CROUCHER, L.D.S.Eng.

I feel impelled, before commencing, to apologise for attempting to write a paper at all, especially on such a subject, as what is a help to one man, may be to another a hindrance; but I have often thought that if amongst dentists there were an interchange of the small notions and ideas which each follows out in his every day practice, I for one, should be a great gainer; and, therefore, in the hope that this paper will induce that interchange, I look upon it as the proverbial " sprat to catch a whale."

Beginning with that trifling operation, the temporary dressing, personally, I have never found anything to equal chlora-percha for that purpose. Previously, however, I found it a great nuisance, as the chloroform was always evaporating, and so leaving the gutta-percha in its original hard state, and thus a certain amount of time was wasted in redissolving the gutta-percha whenever it was required for a dressing. This drawback can be overcome if in the first place the bottle is nearly filled with broken pieces of temporary gutta-percha, and then with enough chloroform to cover the gutta-percha, the resulting solution will remain moist for ever, provided about once a week a little fresh chloroform is added, and the whole stirred up together.

I have also found it a very useful plan to soak a large piece of cotton wool thoroughly in the solution, then with a gentle, steady heat evaporate the chloroform, and cut up the remaining hard mass into pieces of various sizes, they are then always ready for use as temporary dressings. When required for use the pellets are warmed over the spirit lamp so as to soften them, and then packed into the cavity; if required extra soft, as for instance when used to cover an arsenical dressing, they should be well heated, and then dipped into chloroform.

I find these pellets also very useful for firmly wedging thin steel or German silver matrices against the walls and cervical edges of approximal cavities, as in the plaster model which I pass round; it is as well to have a number of these small matrices in different sizes and shapes ready to hand, and, in approximal cavities, where it is impossible to apply the rubber dam, either from unwillingness on the part of the patient, or from the fact of the cavity extending too far beyond the gum margin, the cavities can be kept absolutely dry during the process of stopping by the following procedure—first touch the gum between the two teeth with a small pledget of cotton wool dipped in trichloracetic acid, then pass suitably shaped matrices between the gum and the cervical edge of the cavity, and pack the space between the two matrices—if they are approximal cavities, or, between the matrix and the adjoining tooth if only one cavity, with the softened chlora-percha pellets; this, in conjunction with the trichloracetic acid, which cauterises the surface of the gum, forms a simple dam which will exclude all moisture from gaining access to the cavity for any length of time; in conjunction with this method, it is advisable to use small rolls of bibulous paper, placed between the cheeks or lips and the alveolus, and to have the saliva ejector doing its work inside the mouth.

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* Read at a meeting of the Southern Counties Branch, held January 23, 1897.

I have found chlora-percha to have a very obtundent effect on sensitive dentine, if after the sensitive cavity has been well syringed with warm water to remove any *débris*, wiped out with carbolic acid, and thoroughly dried, either with chloroform, or hot air, it is packed with these softened chlora-percha pellets, and then left for two or three days, the sensitiveness of the dentine will be found to be very much diminished, if not entirely subdued at the end of that time. Whether this is due to the obtundent effect of the chloroform, or to the thorough exclusion of moisture from the sensitive surface I do not know, but should be inclined to think that the latter is the explanation.

When Mr. Denham's rubber cups first came out, I used them a good deal, but found in some cases, they rather obstructed the light. The rubber was also inclined to perish and lose its elasticity if kept any length of time, and being made, I fancy, in four pieces they were sometimes inclined to split at the seams. In place of them I have lately been using small rounds cut from ordinary rubber-dam, and have found them very serviceable in all cases where the rubber cups were applicable. Of course, I do not advocate their use in long operations, such as large contour gold fillings, but for operations of medium length they are very useful. They can be retained in position on the teeth, either by the clamp, or by tying with silk. The latter plan is I think preferable where possible, and, in the case of the lower teeth, the saliva ejector tube on the ligual side of the teeth, and a bibulous paper pad on the outside, under the rubber will sufficiently evert the edges to give it a cup-like form. In the upper teeth, the tendency will, of course, be for the rubber to be pendent. Should the operator be called away in the middle of an operation, the teeth can always be kept perfectly dry by folding the edges of the rubber over the tops of the teeth, placing a tightly folded piece of bibulous paper over the rubber, and getting the patient to keep the teeth shut on the bibulous paper until the operator's return. Of course, unless the mouth is a very dry one, or the operation very short, the use of the saliva ejector is a *sine quâ non* with these small rubber rounds, a number of which, of different shapes and sizes, can always be kept ready cut up, so that no time is lost in applying them.

It is rather useful to have different coloured silk threads for tying the dam on each separate tooth, there is then no difficulty in differentiating between the ends of the threads belonging to the different teeth.

Another use I have put the rubber dam to is cutting out india rubber bands for regulating and other purposes. I do not often use bands, as I fancy springs, spiral or otherwise, exert a more even and controllable pressure on the teeth, and during the intervals between my need for them, the india-rubber bands I had by me, used frequently to lose their elasticity, and it is annoying to want some bands in a hurry, and find there is not one fit to use; but, by means of steel punches of different sizes obtainable from any leather shop, Nos. 6, 8, 9, 11, 13 and 15 I find the most useful sizes, and a flat leaden block, a fresh supply can at a moment's notice be punched out in the workroom either from thick or thin rubber dam, just as one wants either strong or weak bands. I have tried cutting small bands from narrow rubber tubing, but did not find them so satisfactory as those punched from rubber dam, as it was rather difficult to cut them quite even. The punches when obtained from the shop are blunt, but they are easily sharpened with an ordinary gold plate file.

In extracting molar teeth, where the patient will not have gas, and where chloride of ethyl spray is not applicable, I have found that by packing between the surrounding gum and the teeth with small pieces of cotton wool soaked in a saturated solution of cocaine and calorific fluid, and then placing on either side of the gum over the root of the tooth a piece of cotton wool, about the size of a haricot bean, soaked in calorific fluid, and allowing a full minute and a half to elapse before operating, the pain of the extraction is very much lessened. I have had this method personally demonstrated by the extraction of a lower molar, the operator packing the gum in the aforementioned way. I, of course, felt the extraction to a certain extent, but it was nothing compared to the usual half hour compressed into a few seconds, when nothing is used to alleviate the pain. I cannot say I have found calorific fluid by itself of much service in the extraction of a permanent tooth, although for small roots, and for temporary teeth, it is excellent. It is essential for the success of this method, that the tissues round the tooth should be kept free from moisture, and that a full minute and a half be allowed to elapse between the packing of the last piece of cotton wool, and the application of the forceps. The best instruments I think for packing the small pieces of cotton wool are a medium sized straight probe, and a "Lord's" sickle scaler.

In cases of pain during the eruption of a wisdom tooth I have found rapid relief follow the treatment of the gum with crystals of carbolic acid, dipping small pieces of cotton wool in the melted crystals and a little cocaine, and then packing them between the erupting tooth and the gum, and also touching the surface of the gum with the carbolic acid and cocaine. The patient can himself carry on the same treatment at home by touching the gum three or four or more times daily with a small piece of cotton wool twisted round the point of some fine instrument and dipped in a solution of carbolic crystals and cocaine dissolved in alcohol; this treatment is, I think, better than lancing or excising the gum over the coming tooth, as in lancing the gum a cicatrix is apt to form, rendering a second attack much more troublesome; and in excising, with the gum so exquisitely sensitive as it very often is, the operation is apt to be rather unpleasantly painful for the patient. I had two cases during the last month, in both of which the pain and swelling subsided very quickly under the carbolic acid treatment. In the one patient who came to me on December 29, the right cheek was much affected by a hard brawny swelling, and the gum, both over the wisdom tooth, and along the buccal surface of the second molar, was much swollen, with pus oozing from the margins: I treated the case by packing the gum with small pieces of cotton wool dipped in carbolic and cocaine, and also touched the gum surface immediately over the erupting tooth with trichloracetic acid, and instructed the patient to touch the gum five or six times daily with the carbolic acid and cocaine solution, asking her to come and see me again on the following Monday, but, by the first post on that day I had a note from her saying that, as the swelling and pain in the cheek and gum had quite gone away, and, perhaps a more powerful reason still, she had an invitation to join a bicycling party, she thought it unnecessary to call; I wrote asking her to continue the treatment for another week, and, as I have heard nothing of her since, conclude she has had no further trouble. In the November number of the *Dental Cosmos*, there is a paper by Theodore Soderberg, entitled "Pulp Mummification," in which he advocates the use of the following formula:—

Dried alum	ʒ i.
Thymol	ʒ i.
Glycerol.	ʒ i.

Zinc oxide, q. s., to make a stiff paste.

The pulp is first destroyed by arsenic or otherwise, then at the next sitting the coronal portion is removed, leaving however the pulp in the roots intact, and filling the empty coronal pulp cavity with small pieces of the paste. Beginning on December 28, 1895, I have up to the present filled ninety-five teeth in that way. The first case I may mention was unsuccessful, the patient returning in a day or two to have the stopping taken out, and eventually the tooth itself was extracted, when it was found that the apex of one root was roughened and absorbed, which doubtless was the cause of the pain. In all succeeding cases, I have added a little cocaine to the mummifying paste, and after the coronal cavity has been filled with it, have sealed it with a small piece of cotton wool dipped in chlora-percha, then over that placed the cement lining, and then whatever other stopping is most suitable. In one or two cases there has been a little tenderness in the tooth for a day or two when anything hard has been bitten on, but the pain has always yielded to aconite and iodine. In connection with the application of aconite and iodine, I generally advise my patients to use an ordinary wooden match, with a little cotton wool twisted round the end, to paint the gum, rather than a camel's hair brush, as the constant dipping of the brush first into the tincture, and then into the mouth, rather tends to deteriorate the tincture, while the match and cotton wool can be thrown away and a fresh one used each time. Of course, hardly enough time has elapsed to thoroughly test the efficacy of the mummifying method, but I should be glad to know the experience of anyone present who may have tried it, for, in respect of the saving of time to the operator, and discomfort to the patient, it has a great advantage over the filling of the roots of teeth in which the nerve has been destroyed.

I suppose most dentists now-a-days use special trays for taking impressions for artificial work; in the days of my apprenticeship, we used to strike up a special tray from sheet zinc, which meant half a day's work, and the tray when finished, was not a pleasing object, with its occasional open-work pattern, and its little patches of zinc and solder, but now of course with the plaster of Paris casts, and pewter metal, half an hour is ample time to make any special tray; I have my trays made so that with the exception of the last molar or two on either side, I do not have the tray covering the outside of the teeth, but let it terminate at the cutting edge, or grinding surface on the lingual side ; in using it, having lined the surface of the tray with composition, in the usual way, and pressed it well home in the mouth, I allow it to harden a little, and with a sharp Lord's syckle scaler, trim away from the labial or buccal surfaces, any portion that might cause a drag, taking care at the same time, to support the tray with the fingers of the left hand, so that it does not move in the mouth at all, having done that, I then mould pieces of composition on the labial and buccal surfaces of the teeth, by means of the fingers, and allow them to harden. I first remove the outside pieces, then the tray from the mouth in the ordinary way, put back the loose piece and wax them in their places on the tray, then pour in the usual way, and the result is certainly a sharper impression than would be the case if the tray covered the whole surfaces of all the teeth. I have here a model taken with an ordinary tray marked A, and one with a special tray marked B, showing the difference in sharpness of outline, also the tray itself with Stent and separate pieces *in situ.*

I have found it rather preferable to keep my burs for the dental engine in small shallow trays painted white, which fit into a shallow drawer in the cabinet, than in a bur-stand, or in the drawer provided for them in the "Allen" table. The trays being painted white, it is easier at once to pick out the size and shape one wants to use, and it is also a help to have the different varieties separated from one another, as they are by the different divisions in the trays.

I have in a few cases lately been trying the effect of cataphoresis in conjunction with a saturated solution of cocaine in water; but as far as I have got at present, am not quite decided whether to call it a help or a hindrance, on account of the time taken up by its application. In one of the Dental Journals I remember reading that an American dentist, whenever he had anything fresh he wanted to make a trial of, always utilised his wife's relations for that purpose. Unfortunately my wife's relations are not so complaisant as that gentleman's, accordingly at the commencement, I was obliged to experiment on myself. First I used the double-tong electrode on the fleshy part of my hand, packing the little cups with cotton wool dipped in a saturated solution of cocaine, also holding the negative electrode in the same hand, doing this for fifteen minutes, the volt selector registering twenty volts. So far that was satisfactory, and I could pass the needle of a hypodermic syringe three-quarters of an inch into the anæsthetised part without feeling it, but I unfortunately did not pack enough cotton wool round the little platinum plate in one of the cups, as at one point the metal came into direct contact with the skin, and a process of electrolysis took place. The next case I tried was also on myself, I had a right upper molar which was beginning to develop an abscess, and as it was a Sunday night, and according to the old copybook saying, "Satan finds some mischief still for idle hands to do," I settled down to study the effects of cataphoresis on that tooth, I used the double-tong electrode, applying one tong on either side of the alveolus, with a saturated solution of cocaine, using plenty of cotton wool this time to cover the little platinum plates; I applied it for fifteen minutes, devoting the first eight to gradually getting up to four milliamperes, and the next seven to remaining at that point, the gum was certainly numbed, so that I felt nothing when I pushed the blades of the forceps up by the sides of the tooth, but when I started to loosen the tooth, I thought that discretion was the better part of valour, and concluded to have a little more cataphoresis, accordingly I devoted another fifteen minutes to it, and then went for the tooth again. This time I got it out, but the actual parting of the tooth from its socket was quite as heart-breaking an affair as usual.

The next case was one of an exposed nerve in a front tooth, I applied a little cotton wool soaked in a saturated cocaine solution direct to the nerve, wound a wisp of cotton wool round the platinum point electrode, and applied that to the other cotton wool, having first dipped it in the cocaine solution, and kept it there for twelve minutes, but could not register higher than one and a half milliamperes owing to the discomfort caused to the patient, at the end of that time, the nerve was quite as sensitive as at first, so I finally worked up a little cocaine on a nerve broach, and extracted it in that way, but I think that an application of arsenic is always preferable, as the bleeding is so troublesome from a freshly extracted nerve. My next trial was on a sensitive lower bicuspid, decayed on the distal and buccal surfaces, but the patient being highly nervous and sensitive, she found the application too painful, unless increased by infinitesimal degrees, so that after seven minutes, at the end of which time I barely reached half a milliampere, I gave it up, as I had not the time to spare. My next trial was in a medium sized sensitive cavity in an upper right molar, I applied it with the same solution, and in the same way for fifteen minutes, devoting nine to registering three milliamperes, and six to remaining at that point, at the end of that time I was able to bur out the cavity with the engine, and fill the tooth with gold without the slightest sensation of pain to the patient, who said she did not even feel any shrinking from the use of the engine, as the tooth felt, as she expressed it, quite numb and dead, although before the cataphoretic application when I probed the cavity, the patient gave an excited jump, and informed me that I "touched the nerve then." In another case for the same patient, I applied it to an upper lateral, which had been filled with gutta percha for some time, owing to its being too sensitive to be properly cut out to retain a gold filling. On taking out the gutta percha, I found the dentine still very sensitive, so applied the cocaine in the same way, for some reason or other, either owing to greater resistance in the patient, or to some defect in the apparatus, I could not get a higher registration than one and a half milliamperes, but after twenty-five minutes at that point I finished the preparation of the cavity, and filled the tooth with gold by hand pressure and the mallet, finishing with sand-paper discs, the patient assuring me that she felt no pain whatever. I have the apparatus rigged up by the side of the chair in my operating room, so that it is always at hand when I want to use it, the milliampere meter is fixed to the wall at the right hand side of the window so that I can see at a glance what number is registered by it while underneath that, and connected to it by the necessary cords, is the voltimeter which stands on a small round wooden tray, fixed at the end of an ordinary stout double-jointed gas bracket, which is in its turn screwed to the wall at the side of the window, so that when the gas bracket is fully extended the fibre knob of the volt selector, is under easy control of the right hand, and when not in use it can be swung back out of the way, the battery I have in a small cupboard at the bottom of my cabinet, the cords from it to the volt selector passing through a small hole drilled in the side of the cabinet.

Some Points on Gold Fillings.*

By JOHN P. HEADRIDGE, B.Sc.Lond., L.D.S.Eng., D.D.S.

The subject of filling with gold seems of interest, since a few months ago the Dental Journals contained frequent notices about a new preparation of gold which was said to simplify filling to a perfectly marvellous extent.

Gold fillings come under two classes, non-cohesive and cohesive. Non-cohesive fillings I cannot say much about. I have frequently used non-cohesive work for cervical edges and in wedge-shaped approximal cavities in bicuspids, but I have had very little satisfaction where I have so used soft gold and have consequently gradually entirely given it up.

I am afraid this is all I can say about non-cohesive work, so I must confine my remarks to filling with cohesive gold, and will endeavour to give reasons for my preference as I go along, though I may here remark that the smoothness of the surface of a cohesive filling seems a more valuable characteristic in a filling, especially at the cervical edge, than the probable closer adaption obtained by using non-cohesive gold.

Before attempting to put in a filling of any description—most especially a gold one—the first and most vital consideration is the general condition of the mouth. In an unhealthy mouth no filling will stand to the best advantage. An unhealthy mouth may, for our purposes to-night, be defined as one in which the septa of gum between the teeth are the slightest piece inflamed. In a perfectly healthy mouth the festoon of gum at the neck of a tooth is of a very faint pink colour both labially and lingually, and the septa uniting the festoons are just as light, or if anything, lighter in colour.

Many things might be mentioned as causing the gums to become inflamed, but we need only consider two of them, tartar and the ragged edges of carious teeth.

Tartar we may take as of two kinds, ordinary calcareous and seruminous. In a mouth in which the saliva deposits much calcareous tartar one need have very little fear about a gold filling lasting well so long as the tartar is not allowed to increase to any extent. But, where certain teeth are covered with tartar simply from disuse, decay is most apt to recur around any fillings placed in them unless they are put into such a condition that they have their fair share of work. In a mouth in which the saliva deposits very little calcareous tartar, fillings frequently do not last well, especially if the gums are at the same time liable to become inflamed from the deposition of nodules of seruminous tartar below their edges, and if the saliva is at the same time at all viscid or stringy.

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* Read at a meeting of the Midland Counties Branch.

With a patient having this unfortunate condition of affairs, you can only do yourself justice by pointing out that unless they take the utmost care of their teeth, your fillings will be useless, and that they will only get full satisfaction out of your work by coming regularly to have the tartar, which collects under the edge of the gum, removed. Before leaving this part of my subject, let me say one word about scaling; this operation ought to be done with delicate instruments which can be passed below the edge of the gum, for it is the removal of the small nodules of tartar which collect in this position which is of such importance. The operation is tedious and an uninteresting one, but well repays you for thorough and careful work.

In cases where the gums are inflamed simply by the ragged edges of carious cavities, the safest plan is to excavate all cavities thoroughly and then fill with white cement or with gutta percha.

When the cause of the inflammation has been removed, the gums are rapidly brought to a healthy condition by free treatment with iodine or some other astringent. In cases where the gums are healthy, fillings naturally have the best chance of lasting.

I am afraid I have hardly done justice to this part of my subject, for the health of the gums is by far the most important of all factors in the preservation of fillings of any description, and I cannot too strongly commend it to your consideration.

Now, let us consider the process of shaping the cavity. The first point is thorough removal of decay and chalky enamel, next the shaping of the edges of the cavity, and lastly the retention of the filling.

To most successfully prepare a tooth for filling, one must have these points in one's mind in this order. If one starts excavating with the intention of filling the cervical edge with non-cohesive gold, tin and gold or tin, the floor of the cavity must be left more or less flat, and the labial and lingual walls must be preserved to form a properly-shaped cavity to pack the filling non-cohesively; this proceeding brings with it a tendency to leave chalky enamel at the cervical edge, or by leaving the walls standing sufficiently high to permit non-cohesive work, one also brings the boundaries of the cavity nearer to the adjacent tooth than they perhaps need otherwise be. Now we come to the edges of the cavity. The boundary line of a filling ought always to be a gradual curve without any sharp angles.

When a filling can be contoured to touch the next tooth, the edges of the cavity should always be cut back in all directions so as to leave the edges of the gold as far away as possible from the point of contact. This cannot be done when using soft gold as it must always be finished with a flat surface.

Decay on the approximal surfaces of two teeth always begins near the point of contact, and the weakest point in a filling is the edge. So remove that edge as far away from danger as possible. Of course with the front six teeth, one has to always leave as much of the labial plate of enamel as possible, simply for appearance sake.

Finishing of the edges of the cavity.—I believe it is a usual custom to round or bevel all edges thoroughly, but there are these objections to much bevelled or rounded edges. It is difficult to polish the gold and enamel flush without leaving a slight groove, and if one does succeed in doing so, the thin feather edge of gold is very likely to be broken away in course of time, and so leave a roughness for food to lodge in and induce recurrence of decay.

It is therefore advisable to finish the edges of a cavity so that they are as near square as possible or only with an abrupt bevel. It is urged that if one strikes a rounded edge with the plugger, one will do less damage than if the edge were more abrupt. Theoretically that may be true, but practically there is perhaps just as much damage done in either case.

The retention of the filling.—This may be summed up by saying, make the cavity slightly larger internally than at the orifice; if undercuts are necessary let them be shallow, but broad enough to be easily filled. Retaining pits are rarely necessary. In a cavity difficult of access, a little more attention to the shape must be paid, so that the first few pieces of gold may stick easily in their place.

In filling material we have the choice of cylinders, foil and crystal gold. Cylinders are as a rule made of too thin a foil to stand well in any situation. No. 4 foil can be made into rope and cut into lengths, and will then do all the work that cylinders will, and will certainly last much better than any cylinder filling.

Crystal gold has its use, but to expect to work it like soft amalgam is to court failure. It is frequently useful to start a filling, or in very small pieces to level up the surface of a rope filling before finishing it off with heavy foil. Heavy foil is the best material for finishing off the surface of a filling, but it must be worked with great care. To obtain the best results, it should be laid on with a rapid blow mallet in perfectly smooth layers, each layer should be parallel with the surface of the finished filling. Heavy foil is also useful in an approximal cavity where one has very little space.

When the body of the cavity has been filled flush up to the edges, a freshly annealed piece of heavy foil can be burnished on with a warm burnisher. The foil must be laid smoothly in place and added piece by piece. In this manner a very hard contoured surface can be made in situations where it is very difficult to use the mallet properly.

No. 20 is perhaps as heavy a foil as can be used with comfort to the patient, with electric or mechanical mallet.

Mallets.—The automatic is certainly the most generally useful; but it is the most unpleasant of all from the patient's point of view. In a large simple cavity one can mallet in gold far more rapidly with a short heavy hand mallet than with the automatic. When the hand mallet can be used it is far superior to the automatic, and it often causes less annoyance to the patient. Rapid blow mallets are only at their best when used with tape or heavy foil, and are not of much use when used with rope. The more rapidly the blow is delivered, the less pain will the malleting cause. For my own part, I prefer Bonwill's mechanical mallet when driven by a cord engine, to any of the other rapid blow mallets. It works best with perfectly smooth and fairly large points. Small points chop up the gold. Smooth points do occasionally get gilded and the gold sticks to the point, but this is easily rectified by running the point over a bit of emery cloth.

The serrations on a plugger are only of use when the plugger is used at an angle to the surface of the gold. They then prevent the instrument from slipping, so that so long as the serrations are not too deep, one need not pay any special attention to them. Although I am an advocate of the mallet in its place, it certainly is out of place to use a mallet before a good solid foundation has been laid by hand pressure. Hand pressure is certainly not the most rapid method of building up a contour or putting the best finish on a masticating surface. The quickest and best way to finish a filling is, begin to finish as soon as the gold laps over the edge of the cavity. Rub the gold down with a clean warm burnisher and trim off the edges with a sharp clean chisel, then add more gold, mallet and trim down again. By this means a contoured surface can be made which will only want polishing with discs or tape.

And further, you will be certain that it is a hard dense surface, for on trimming down with a chisel, the chisel will tear away any gold which is not properly condensed, but if the gold is properly condensed, it will only cut off the ragged edges and any little irregularities that may be present. In this way you can finish the cervical edge before it is hidden by the rest of the filling, and that is far more satisfactory to both operator and patient, than working away with tape or discs when the edge is obscured by blood. The chisel for this work must have a long thin blade with a little spring in it. Nothing need be said about polishing the filling, for my part I endeavour to finish with chisel and burnisher, to leave as little to be done with discs and tape as possible. (I hand round a couple of burnishers made to my own pattern, and some gold trimmers. The trimmers belong to the Darby-Perry set of instruments).

Now, let us consider as far as possible how and why gold fillings fail?

In the first place, there is the general condition of the mouth, including the saliva and the gums. The saliva, I think, we know too little about. It no doubt varies with the state of health, and although of itself it may never be actually acid, a slight decrease in the amount of its alkalinity or the percentage of salts it contains, will undoubtedly be detrimental to the teeth. Or, if from any cause it contains more mucus than usual, it will again unfavourably affect the teeth and fillings. These factors may possibly account for the recurrence of decay round fillings which have stood for years. But the treatment of the saliva itself is beyond our domain.

I endeavoured to point out at the beginning of the paper how very important it was to remove all causes likely to give rise to inflammation of the gums. Here is where one strong objection to non-cohesive fillings of gold, but especially tin and gold comes in. They roughen, and if this roughness is at the gum edge or below the edge of the gum, that septum of gum will be in a constant state of inflammation, and the swollen gum will be the very thing to induce decay. Where an interstitial filling when completed will touch the adjacent tooth, the contour and the boundary line of the filling become of great importance, and many fillings fail simply from too little attention being paid to these points. Fillings in crown cavities usually fail either from recurrence of decay in deep fissures at their edges or from the gold flaking.

We now come to pitting and flaking of the gold. This may be due to dirt or moisture, insufficient condensation or insufficient care in finishing the surface layer by layer. On a large masticating surface thorough condensation is of more importance than in an interstitial filling.

It is noticeable that cusps of crowns when made of pure gold will, after a certain time, become quite rough under mastication. This, I think, is sufficient evidence that to make a good masticating surface to a filling, we must hammer that gold as hard as possible, and not only make it hard, but see that the layers of gold are all as nearly parallel with the surface as possible, and when we come to polish, we must not cut too deeply with stones or discs, for by so doing, we may get down below our carefully hardened surface to less dense gold. Consequently it is far wiser to leave one or two traces of the plugger point than to polish to a perfectly smooth surface.

This, gentlemen, brings me to the end of my remarks, and I can only hope I have not wearied you with an old and ever recurring subject.

Advertising.*

By C. FORAN.

Annandale's Dictionary gives the following definition of advertising:—"To inform or give notice; to make public intimation of, especially by printed notice; to announce one's wishes or intentions by a public and usually a printed notice." This class of public advertisement by dentists can claim at least that they have long usage to back them up. I came across one the other day which would seem to show that for personal conceit the advertising man of 1760 was quite equal to the men of to-day. This gentleman, who advertised in the *London Evening Post* of July, 1760, breaks into poetry. His shop was in Coventry Street, and was dignified by the name of the "Two Heads." Possibly one head showed a mouth minus teeth, whilst the other showed them restored.

One of his bits of doggerel, though long and halting, is worth quoting.

"Ye Beauties, Beaux, ye Pleaders at the Bar,
Wives, husbands, lovers—everyone beside,
Who'd have their heads deficient rectify'd—
The Dentist famed, who by just application,
Excels each other operator in the nation,
In Coventry's known street, near Leicester Fields,
At the *Two Heads* full satisfaction yields.
Teeth artificial he fixes so secure
That as our own they usefully endure;
Not merely outside show and ornament,
But ev'ry property of Teeth intent,
To eat, as well as speak, and firm support
The falling cheeks and stumps from further hurt.
Nor is he daunted when the whole is gone,
But by an art peculiar to him known,
He'll so supply you'll think you've got your own.
He scales, he cleans, he draws; in Pain gives ease,
Nor in each operation doth fail to please.
Doth the foul scurvy fierce your Gums assault?
In this he also rectifies the Fault
By a famed tincture; and his Powder nam'd
A Dentifrice is also justly fam'd;

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* Read at a meeting of the Southern Counties Branch, held Jan. 23, 1897.

> Us'd as directed, 'tis excellent to serve
> Both teeth and gums, cleanse, strengthens and preserves.
> Foul mouth and stinking breath can ne'er be loved,
> But by his art these evils are removed."

You will notice that his mild assertion, that he "excels each other operator in the nation," is at least not wanting in assurance, and further that he has "an art peculiar to him known," and in both of these little peculiarities he is closely followed by the present race of advertising men.

After this advertisement, the one which was given in the *British Journal of Dental Science* for January 1 of this year is exceedingly mild. He does not attempt to say that he is the best, and we must at least praise the industry of a man who, besides making artificial teeth, fills up his time by making "stud collars for young ladies," "neckswings"—whatever that may be—and other appliances, to cure any weakness or deformity of the body.

Coming down to some twenty or twenty-five years since, the daily papers frequently had from one to two columns of advertisements from various dentists, all of whom used prize medal teeth, and besides had patented methods of fixing them. One of the funniest things in connection with these advertisements was that several of them contained a testimonial from a medical man, who could recommend Mr. Jones, Brown, Smith, or Robertson, as a humane and skilful dentist. Now to see this affixed to so many advertisements gave one the idea that his experience of dentists was very considerable; and so it was, for the poor fellow seldom retained a situation for long, and he then obtained another by giving a fresh testimonial to some other advertiser. Now in this way I think that we have decidedly improved within the last few years. Advertisements rarely appear in the pages of the London dailies, and those which do appear are confined to a very few names, or still more usually to an institute. Of course we get advertisements in local papers, and of course show-cases, but I cannot help thinking that the number of people who get gulled by these means is getting less and less. I quite sympathise with those who, starting practice, perhaps, without a large capital, find themselves surrounded by advertising men who thus manage to pick up some of the work which would be so acceptable to the young beginner.

But whilst we blame—and I think rightly blame—those men for unprofessional conduct, I wish I could say that men whose names do not appear in the advertisement columns of newspapers, or who would not put up a show-case, always acted in a professional or gentlemanly way towards their professional brethren. That such is not the case I have more than once had startling proof. Some few years since I attended a patient whose time was very limited, he being on leave from his ship, which was at another port. Finding that it was impossible to finish with him in the time at my disposal, I placed a temporary gutta-percha filling in one of his teeth, and recommended him to call on a gentleman in the town to which he was going. He did so, and a day or so later wrote to ask me if I knew the style of man I had recommended him to go to; for when he explained that I had told him to call on this dentist, as I was not able to finish with him, his first assertion on looking at the tooth was, that "whoever has been at work at this tooth is a fool;" and further said that the only thing to do was to extract it. This did not, however, meet with my patient's approval, and he returned to me as soon as possible, when I completed the filling; and though this took place some four or five years since, I saw the tooth doing good work with my stopping, still sound after its owner had returned from a tour of foreign service. This I think proves that though he was probably correct in saying that I was a fool, he was not equally correct in his diagnosis of the state of that tooth. But I only mention this case as what I consider one of the most dishonest systems of advertising.

Whilst I was a pupil I made a small gold plate for a patient of my old principal's, who left the town shortly afterwards for a visit at a distance. Whilst away the plate became rather loose, and she called on a dentist to get it tightened (I may say that no one had been recommended to her). This man at once said that nothing could be done with the plate, which would never fit properly, and offered to make her another in the course of a few hours. This she reluctantly consented to, and when she returned a few hours later he put in a plate which was quite comfortable, and which I recognised later on as undoubtedly the one I had made a few weeks previously. Now, apart from the fact that this fellow obtained his fees under false pretences, there is in both cases an attempt to advertise themselves at my expense. I might go on giving cases which have either occurred to me, or have come to my knowledge, of attempts to over-reach or belittle another man, so as to gain glory for themselves; and though I should not be astonished at such treatment from a man who could speak of dentistry as a trade, I must say that it comes as a shock from a man who professes to be a professional man. Still worse than the lying statements so commonly used in newspaper advertisements, which in many cases bring their own reward, is the assumption by many of these men of the letters R.D.S. or M.R.D.S., and I should be very glad to see some means of putting a stop to the use of such letters. There is no doubt whatever to my mind that R.D.S. is intended as a colourable imitation of L.D.S., whilst M.R.D.S. is equally a colourable and fraudulent imitation, intended to deceive people that the user is an M.R.C.S. The Medical Council scared not a few of these fellows who were using the title of Dr., yet I regret to see that many of them are again using the title of D.D.S. as a suffix, whilst dropping the prefix Dr. Whilst such things go on I must admit that I can see little difference between the abbreviated title Dr. as a prefix, or the full word Doctor as a suffix.

My point is this: instead of bothering about the ordinary advertiser, who is probably on the Register, I should like to see some regulation which would prevent the use of deceptive titles or letters. Then, again, I should like to see it compulsory that dental institutes should have some name given as the responsible owner or proprietor, though I cannot help thinking that such cases as we have recently had reported in the papers will accomplish what we must all feel to be a very desirable extermination.

But above all I should like to see amongst dentists a thing which no amount of Acts of Parliament could accomplish, and that is a more gentlemanly feeling, especially amongst members of such an Association as this. I know that it is sometimes very difficult to separate the wheat from the chaff in these cases, but I think that if it is not possible to speak in high praise of another man's work, it is possible at least to say nothing at all. I have been frequently met by the greatest courtesy by dentists to whom I have been personally unknown, and that, I take it, is the proper spirit in which we should be able to approach each other, instead of showing that bitter jealousy which we find too often.

Whilst on the subject of advertising I should like to hear the opinions of the members present as to the propriety or otherwise of plates containing the announcement of public or other appointments being exhibited.

Legal Intelligence.

Action to Recover Fees.

THIS case was heard on March 11, at the Westminster County-court, the plaintiff being a Mr. Newton, and the defendant Mr. Cohen. The claim was for 40 guineas for a set of false teeth for the wife of the defendant. Plaintiff's case was that the teeth fitted perfectly; but after Mrs. Cohen returned from Germany she complained that they projected too much, and another set was made. The defendant said the teeth produced sickness, coughing, and swelled the gums. Mrs. Cohen said she only wore the teeth in Germany, when there were others present, for show, as they were so uncomfortable. The second set was worse than the first, as they would not go into her mouth. She was without teeth for two months, and then she went to another dentist, who made her a perfect set in ten days. She never ate with them, as the top ones fell down and the bottom moved. Expert evidence having been given on both sides, his Honour said that to go to the West-end and pay a high price entitles one to a first-class fit, and this was not. Judgment for the defendant with costs.—*Daily News.*

Prosecution under the Dentists' Act.

THE case against Moss Harris, of 99, Western Road, for unlawfully, wilfully, and falsely using the name and title of dentist, although he was not registered under the Dentists Act, 1878, again came before the Court. It had been adjourned since March 16, and it may be remembered that it formed one of a number of similar cases dealt with in January last. The others were eventually concluded, but judgment in this case was postponed, it being represented that a case was then pending in the High Court of Justice bearing upon it. This latter was an application by defendant and others to have their names registered, and it was contended at the first hearing in Brighton that to conclude the case under those conditions would be unfair. An adjournment of two months was granted, followed by another of three weeks. The prosecution was represented by Mr. W. H. Blaber, solicitor (of the firm of Messrs. Blaber and Watson, of 12, Great Castle Street, Oxford Circus, W.), while Mr. B. Jacobs appeared for Mr. Harris. Mr. Jacobs at once made an application for a further adjournment, but Mr. Blaber objected to this very strongly. He was sure that as far as the High Court case went there was absolutely no necessity that the case under consideration should be again adjourned. This, however, brought out the explanation from Mr. Jacobs that in the first instance the applicants to the High Court had made the mistake of applying for a writ of mandamus. Instead, the application should have been for a writ of motion, and this was accordingly made, after the withdrawal of the original proceedings by Mr. Spero, whose case was to be considered as a test case. A rule *nisi* has been granted, and the case has been placed on the Crown Paper. The Stipendiary (Mr. Heathcote) inclined to the granting of another adjournment, as he thought that upon the result of the Spero case would depend whether the penalty he should impose should be substantial or nominal. This then was done, and the date for the next hearing was fixed as Tuesday, May 18.—*Brighton Gazette and Sussex Telegraph.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of the Society was held on April 5, Mr. JOHN FAIRBANK occupying the chair.

On the motion of the PRESIDENT, a vote of condolence was agreed to be sent to the family of the late Mr. Salter.

The minutes of the previous meeting were read and confirmed. Mr. Kenneth W. Goadby signed the obligation book, and was admitted a member of the Society. The following gentlemen were elected members :—(*As Resident Members*) Russell Barrett, L.R.C.P., M.R.C.S., L.D.S., 6, Chandos Street, Cavendish Square, W.; Chas. W. Glassington, M.R.C.S., L.D.S.Edin., 6, Pelham Crescent, South Kensington; Joseph Lewin Payne, L.D.S.Eng., 17, Railway Approach, London Bridge, S.E. The following gentlemen were proposed as members of the Society .—(*As Non-Resident Members*) E. Beltrami, M.D., 2, Rue Noailles, Marseilles, France; Alfred Joseph Makepeace, L.D.S.Eng., Hertford Chambers, Hertford Street, Coventry; Rupert Wheatley, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., 4, Park Place, Torquay.

The LIBRARIAN reported the receipt of the Annual Report of the

Smithsonian Institute for 1896, and also stated that Kingsley's "Oral Deformities" had been added to the library.

The CURATOR reported that Mr. Morton Smale had presented to the Society four skulls illustrating points in comparative dental pathology.

Mr. A. HOPEWELL SMITH showed and explained the use of a microtome, the design of M. Choquet.

Mr. HOPEWELL SMITH read a paper on "The Microscopical Aspect of certain Lesions induced by Dental Caries." He stated that great confusion would be saved if three kinds of dentinal deposits were generally recognised : (1) calcareous degeneration of the pulp, a constant accompaniment of caries, but also found occasionally in sound teeth as the result of vascular changes due to idiopathic or constitutional causes ; (2) secondary dentine occurring not only as a pathological process in cases of attrition, abrasion or fracture, but physiologically as the result of senile changes in both permanent and long-retained deciduous teeth ; and (3) adventitious dentine the product of caries. He considered his subject under three headings : (1) conditions associated with superficial caries ; (2) conditions associated with deep caries : (3) conditions associated with penetrating caries. The various points brought forward were illustrated by some excellent photomicrographs, and as a result of his survey of the subject he thought one was lead to the following deductions :—

(1) That nearly every degree of dentinal change is attended with hyperæmia and cell proliferation in the pulp tissue, and generally speaking, the formation of adventitious dentine. (2) That the latter may have its origin as a conversion or secretion of the dentogenetic cells, producing on the one hand the areolar or laminar or hyaline varieties, when the formative cells alone happen to be concerned ; on the other, the fibrillar or cellular forms when the odontoblasts or connective-tissue cells are by chance incorporated in the deposit. (3) That there are no proofs that the cells called odontoblasts take any part in the production of the matrix of the new dentines the term being therefore a misnomer ; and (4) that the new dentines, by a system of extension from the affected areas, may be just as much subjected to the peptonising action of micro-organisms as the primary dentine of the tooth.

Mr. MUMMERY thought the classification adopted by Mr. Smith was a very natural and useful one ; the degenerative processes in the pulp seemed to classify themselves under the different forms. The author had spoken of the layer of Weil being involved. For his part he had only noticed the layer of Weil in healthy teeth. He agreed with the author that the fibrillæ were nothing in the nature of tubes like those in dentine, but were really connective tissue fibres. He thought there was very little doubt that odontoblasts did not seem to take any part in the formation of secondary deposits. Small connective tissue cells and other cells were to be observed arranged around them, and the fibres which passed through certainly seemed to be fibres of connective tissue.

Mr. STORER BENNETT thought that Mr. Hopewell Smith's suggestions and classification were very valuable, and that nothing but congratulations could be conveyed to him for his paper. The author had spoken of the extreme rarity of true bone being found in the pulp chamber. No doubt it had been very rarely found there, but Mr. Salter had described and figured some specimens of true bone in the pulp cavity of the teeth. Mr. F. J. Bennett had also described and figured a specimen some years ago in the *Transactions* of the Society, where absorption had taken place in the root and a deposit of new true bone had taken place.

Mr. F. J. BENNETT said that Mr. Hopewell Smith deserved the congratulations that he had received. The author held what might be called an extreme view of the subject, a view that was not universal, and he should have liked not only an expression of opinion about such things as the function of the odontoblast cells, but a demonstration as to the grounds on which the author had formed his opinions. He did not quite follow Mr. Smith's views as to the exact method in which the concentric globules were formed in the pulp; what was the exact method in which they grew; and in what particular they differed from those masses of calcified substance which did not present the concentric lamination which Mr. Smith had shown. The author had said with regard to the calcareous masses that they grew more in a manner resembling intra-membranous ossification, and he (Mr. Bennett) would like to know if the concentric masses were also supposed to grow in the same way.

Dr. PARE gave his opinion that calcareous degeneration was extremely common in teeth where there was no caries at all. In one case he had seen there was calcareous degeneration in the centre of the pulp of some teeth which were extracted for regulation purposes and were perfectly free from caries. Calcareous degeneration of the pulp frequently occurred when there was no sign of its presence at all. In one specimen he had got he was of opinion that adventitious dentine had been formed without any caries. In cases of caries where the decalcification had taken place rapidly, and the dentine was quite soft and lifted off in flakes, no adventitious dentine had been present, and that, he considered, was due to decalcification being so rapid that the pulp had not time to produce any fresh dentine.

Mr. HOPEWELL SMITH briefly replied. He considered that if the term "adventitious dentine" were restricted to dentine produced entirely by caries, that would pave the way to many things. With regard to the basal layer of Weil, that certainly existed in the specimens of which he had been speaking, and it seemed to him to be a very common accompaniment of hyperæmic conditions of the pulp. Mr. Bennett had spoken about the calcareous degeneration as "intra-membranous ossification," and he (Mr. Hopewell Smith) thought that certainly the early stages of calcareous degeneration of pulp were produced in the same way intra-membranous ossification of bone was produced. He could not throw any light on the method of formation of the laminar varieties, but there was no doubt whatever about calcareous degeneration commencing in the form of ossification of connective tissue fibres by means of small cells round their edges.

The Birmingham Dental Students' Society.

A MEETING of this Society was held in the Professors' Common Room, Mason College, on Thursday, March 11, the President, Mr. J. DENCER WHITTLES, being in the chair.

A living case of cleft palate, with obturator, was shown by Mr. C. E. MOUNTFORT.

Mr. C. C. WOOD then read a paper, entitled "Cleft Palate, Causes and Treatment," touching upon congenital and accidental fissures of the hard and soft palate, giving illustrations of the surgical and mechanical methods of remedying these deformities, and showing how the former of these fissures may be produced by abnormal development.

Mr. C. E. MOUNTFORT then gave an excellent demonstration on the making of obturators, which was illustrated by several specimens.

A short discussion having taken place, Mr. G. V. SMALLWOOD read a paper entitled "The Maxillary Sinus in Health and Disease." Amongst other things he referred to the anatomical relations of the antrum, and went on to describe empyema of that sinus, dealing with its various causes, diagnosis by means of transillumination, and discussed the various methods of treating the disease.

Both papers were illustrated by lantern slides shown by the President.

Some casual communications brought the proceedings to a close.

The last meeting of the session was held at Mason College on Thursday, March 25, the President, Mr. J. DENCER WHITTLES, in the chair.

A living case of necrosis following fracture of mandible was shown by the PRESIDENT.

Specimens of dental cysts were shown by the PRESIDENT, and a sponge-holder by Mr. A. W. SHEDDEN.

Papers on "Anæsthesia," and "Amalgams: when and how to use them," were read by Messrs. A. H. PARROTT and H. PERCY JOSCELYNE respectively.

In the first part of his paper Mr. Joscelyne referred to the inordinately large number of gold fillings, as compared with amalgams, which were put in at the Dental Hospital, and said that a student who put in any other fillings but gold in ordinary cavities, however inaccessible those cavities may be, or whatever the quality of the tooth substance, was at once branded as incompetent. He contended that over 15 per cent. of the gold fillings done at the hospital ought to be amalgams. In the second part of his paper the reader made some remarks about the theories held with regard to the chemical union in amalgams, and gave some practical hints on the working of amalgam.

Some casual communications having been made, the proceedings terminated with the usual votes of thanks.

The Prize Distribution and Conversazione at the National Dental Hospital.

A CONVERSAZIONE was given at the National Dental Hospital on Thursday, March 11, when the prizes and certificates to the successful students were distributed by Mr. J. Howard Mummery. At the close of the distribution Mr. Howard Mummery delivered an address which we publish on another page. During the evening Mr. E. A. Johnson's band performed an excellent programme of music in the Lecture Room, whilst in other rooms the following entertainments were given :—Prestidigitation, by Mr. Percy Cooper; Animated Photographs, by Mr. E. J. Dale (late of the Alhambra); Second-sight Seance, by Mr. and Mrs. H. C. Carter; Röntgen Rays, by Mr. William Webster, F.C.S. In the Museum a number of microscopical objects were shown by Mr. W. H. Must. Most appropriately the mechanical laboratory was devoted to practical demonstrations on the action of teeth on various food stuffs, the latter being choice in quality and copious in quantity. Here, too, sundry liquids were provided, doubtless to emphasize the need of using "gargles" after food. A Concert in the Stopping Room on the top floor (under the direction of Messrs. Glassington and Beverley) was a great attraction, towards which Messrs. W. R. J. McLean (Mus.B.), Alfred Smith, W. Rushton, W. H. Wheatley, Lewis Smith, John Clulow, W. R. J. McLean and Miss Rose Williams contributed.

Dental Hospital of London.

THE thirty-ninth annual meeting of this Charity was held on Thursday, March 11, at the hospital in Leicester Square. Lord Kinnaird was in the chair, and the Committee of Management, in presenting their report, which was unanimously adopted, again congratulated the Governors on the continued and increasing usefulness of the institution. It was pointed out that the work of both the hospital and school was hampered, owing to the utter unsuitability of the present premises in area as well as arrangement, and with a view to improvement in this respect the committee had purchased, as opportunity offered, the buildings contiguous to their property. The whole of such a site as is deemed suitable, containing an area of about 8,000 square feet, has now been secured, and the buildings thereon having been condemned by the County Council, are now cleared off, and the committee, seeing the urgent need of the hospital for improved premises, have decided, rather than let the land lie vacant, to raise by loan the money necessary to start building. The designs for the new hospital have been prepared by Messrs. Young and Hall, and the committee hope that during the current year the building will be erected. During the year 1896, 57,654 cases have been attended to at the hospital, many of them being treated for preservation rather than extraction. An earnest appeal was made by the committee for increased assistance to enable them to carry on the work, and also to furnish them with means for proceeding with the erection of the new hospital so much needed, and they venture to hope that as the Queen's Diamond Jubilee will be celebrated during the current year, the generous public will more liberally subscribe towards this deserving charity, as without funds the most perfect organisation must languish and fail in its best efforts. Donations or subscriptions will be gladly received by the bankers, Messrs. Barclay & Co., Limited, 1, Pall Mall East, S.W.; the treasurer, Joseph Walker, Esq., M.D.; or the secretary, Mr. J. F. Pink, at the Hospital, Leicester Square, W.C.; from the latter of whom all information concerning the institution may be obtained.

Hospital Reports and Cases in Practice.

The Replacement of a Fractured Portion of a Central Incisor.

By C. ROBBINS, L.D.S.Eng.

In September last a young lady, aged 15, was looking at a hockey match played by members of the fair sex, when a large pebble, accidentally hit by one of the players, struck her in the mouth, breaking off the mesial corner of the right central. This corner fortunately fell into the mouth, and was carefully preserved. The fracture was not sufficient to involve the pulp. Nitrate of silver was applied to the sensitive dentine and a model taken. At a later date the small tip of tooth was carefully drilled at the strongest part with the smallest rose head burr, and into the hole thus made a platinum pin taken from a crushed artificial tooth was fitted and cemented, the platinum pin having been previously strengthened with a small quantity of gold solder.

The rubber dam was applied, a small interstitial gold filling drilled out, and from this point a double groove drilled. The platinum pin was then flattened so as to glide up this groove, and the entire thing secured with Harvard cement. A mistake made was in cementing in the platinum pin to the piece before trying in the mouth, for in one part the platinum pin was so near the labial aspect of the tooth that a pin point of cement showed, otherwise the only indication was the oblique crack in the enamel. The tooth when seen recently was doing well.

A Case of Retarded Eruption of Canines and Suppression of the Laterals Treated by the Insertion of a Dentine.

By C. ROBBINS, L.D.S.Eng.

This patient was a lady aged 17, in whose family there was a history of suppression of laterals and retarded eruption of permanent canines. In the patient's grandmother the canines had been erupted late, and had had to be removed. A cousin of the patient was also minus centrals and laterals in the upper jaw. The treatment adopted was as follows:—

The upper centrals, which were widely separated from one another, were fitted with gold collars, small projections being added on the distal aspect to prevent the elastic bands from slipping up during the process of bringing the teeth together. The teeth proved to be very stubborn and resisted the action of elastic bands. "*Gilling twine*" was then used with marked results, the teeth being brought into actual touch in ten days. After the teeth had been kept in position for a short time, an ordinary small vulcanite suction plate was fitted, carrying the missing laterals and one canine.

Royal College of Surgeons of England.

Mr. Davies-Colley has been appointed a member of the Board of Examiners in Dental Surgery of the Royal College of Surgeons of England.

Abstracts and Translations.

Teeth Irregularities and their Surgical Correction.

By EUGENE S. TALBOT, M.D.

THOSE with experience in the correction of the irregularities of the teeth realise how difficult, tedious, and painful such operations are. Especially is this the case if the patient be advanced in years. Indeed, such operations are often not attempted, because of the density of bone. This is the case especially in hypertrophy of the alveolar process. The inconvenience and unsightly appearance of many appliances required, when great pressure is needed to move certain teeth (notably cuspids, upper and lower) either forward or back, is another objection. Appliances adjusted to the head are so unsightly and embarrassing that not infrequently the patient is deterred from the operation, which would otherwise have been undertaken could some method be adopted which would not detract from personal appearance.

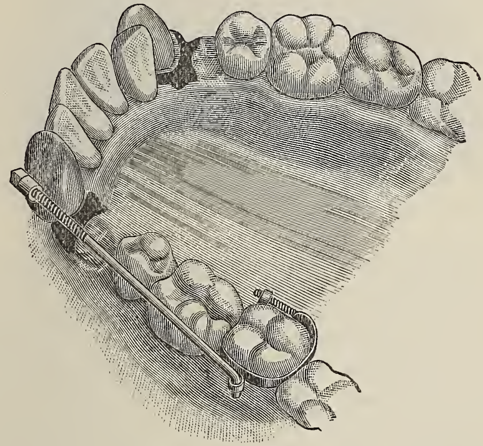

FIG. 1.

The method of attachment of appliances to the molars for the purpose of moving the cuspids and incisors back, frequently chagrins and mortifies the operator when he discovers that, instead of the molars being the fixed point and the cuspids drawn back, the reverse has occurred.

One most difficult problem to solve, which always requires extra pressure, is that when the inferior anterior alveolar process has become excessively developed, carrying the incisors upward until the cutting-edges come in contact with the mucous membrane in the vault of the mouth, which causes proliferation of osteoblasts that carries superior incisors forward.

Density of bone often makes it very difficult to obtain sufficient force to produce the absorption of this tissue required to bring the teeth back into place. Probably one of the most difficult operations is to carry a cuspid, which is erupting in the vault of the mouth, back into its normal position. This not only requires considerable force, but time, to say nothing of the difficulty in attaching a cap for a point of resistance. Rotation of the teeth, especially the incisors and cuspids, is frequently difficult, if not impossible, owing to insufficient leverage.

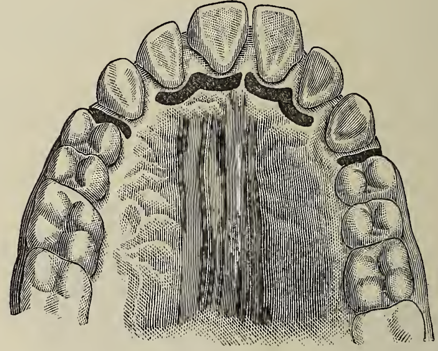

FIG. 2.

Many other situations present themselves to the operator in his practice other than those mentioned, but as all require treatment in the same manner, only the most difficult cases have been cited. After an appliance has been adjusted, no matter of what nature and pressure applied, the long, tedious method of ploughing through the alveolar process (regardless of the density of bone) by absorption is pernicious and unscientific, not to speak of the long, tedious days, weeks, and months of suffering. The period of life most acceptable for the correction of these deformities is between twelve and sixteen years. This time is to the patient the most critical in their lives, and as in every case they are degenerates with an unstable nervous system, the greatest care should be taken not to subject them to great strain. I have known cases of nervous prostration of two years' standing to result, and one case was permanently injured by such nerve-strain.

For seventeen years I have adopted surgical treatment, but have not made public my methods, since incidental conversation with some of the best men from time to time revealed that they had not taken kindly to it. I therefore wished to give it sufficient trial before recommending it to the profession. I have met with such markedly uniform success that I do not hesitate to recommend it to all practitioners as perfectly safe and reliable with the antiseptic care required in surgical operations. This method consists in removing entirely the alveolar process in the line of travel of the tooth to be moved, leaving a small amount of process about the root of the tooth, holding intact the peridental membrane. This is accomplished with coarse-cut Revelation burs, or those that will cut in all directions. They can thus be used as drills in certain conditions to be mentioned later on.

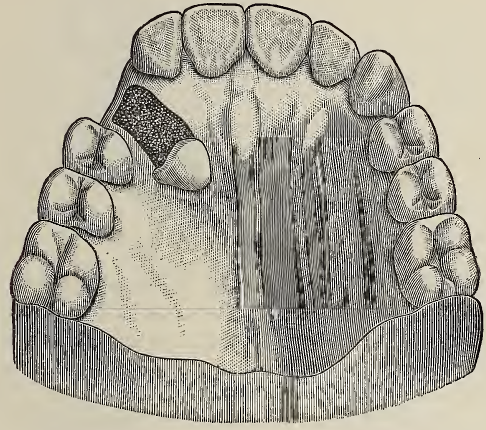

FIG. 3.

If the cuspids require to be carried backward, make an appliance with bands about the first and second molars, with cap upon the cuspids and a bar with screw and nut upon the end, as recommended by Dr. Farrar. Extract the first bicuspid, and adjust the appliance. Then with a sharp new bur dipped in 5 per cent. carbolic acid or 1 per cent. corrosive sublimate or listerine, resting the hand against the cuspid, cut out the palatine and buccal V-shaped plate, making a concave surface of the alveolar process, as illustrated in fig. 1.

If the superior incisors are to be carried back, cut semi-circular spaces just posterior to the teeth to be moved (fig. 2). To carry a cuspid into place which is erupting into the vault of the mouth, remove the alveolar process in the direction of the line of travel (fig. 3).

In moving teeth laterally by a jackscrew, it will be found that not infrequently one tooth moves faster than the other. To bring both to their proper position cut out the alveolar process on the side of the slowest-moving tooth, and both will come into proper position (fig. 4). To rotate a tooth, cut a circular groove as deep as possible around the tooth, leaving enough process to hold the peridental membrane intact (fig. 5.) In this manner teeth may be moved very rapidly and without much pain. This should always be done by means of screws. By this method we have the tooth or teeth to be moved completely under control. Any of the teeth in the mouth may be used for the fixed point of resistance, thus doing away with all unsightly appliances outside the mouth. When in place they should be anchored in the usual manner. Antiseptic washes should be used from time to time, such as 1 per cent. corrosive sublimate, listerine, or 5 per cent. carbolic acid.

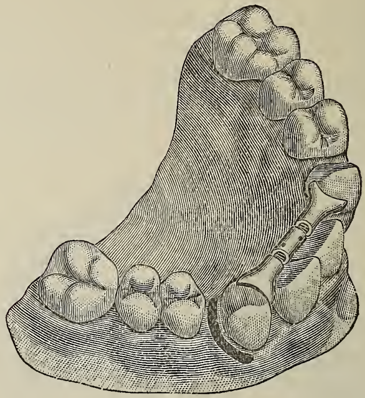

FIG. 4.

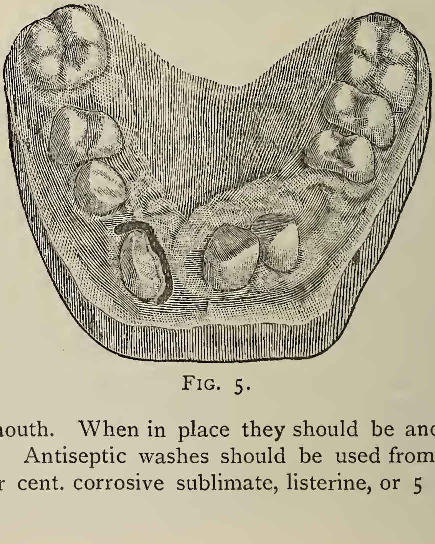

FIG. 5.

In operations of this nature the peridental membrane and also the periosteum are apt to be injured. This was the particular question in recommending it to the profession. Although I have had a few cases of infection, I am quite certain now that such injuries are not of any serious consequence, since with proper precaution no bad results will follow. With this mode of treatment patients are saved time and money, and the operator worry.—*Cosmos.*

An Address.*

By J. HOWARD MUMMERY, M.R.C.S., L.D.S.

LADIES AND GENTLEMEN,—I have been asked to address a few words to the students of the National Dental Hospital, and I am very pleased to add my congratulations to the hearty good wishes shown by you to-night to those who have been successful in winning the prizes of the School.

I cannot help thinking, however, that the Committee have acted rather cruelly in asking the students' particular *bête noir*, an examiner, to address them to-night. We all know what the student thinks of the examiner, and what perhaps we also thought ourselves, in earlier days. He is a terrible machine that exists only for the discomfiture of the student, to ensnare him with catch questions and trip him up in any particular point in which he is constitutionally weak. When he seems to signify approval, he is accused of double dealing and making use of wiles to lure the unwary one to his own destruction. On the other hand, if he maintains a sphynx-like silence, and moves quietly on to another subject, when he is told that the teeth of the carnivora are characterised by a flat grinding surface, and the absence of canines, he still does not escape adverse criticism,—the poor innocent candidate does not know whether he has pleased him or not.

Perhaps, however, the examiner has still a soul like other men, and is not always quite so black as he is painted, although he has lately added to his crimes by acquiescing in certain alterations in the examination for the dental diploma that will so soon be in force, but perhaps I may be allowed to try and defend him here. A very great addition we think was made to the value of the L.D.S. diploma, by the introduction of the practical examination. This is a test of knowledge that cannot be crammed and is of corresponding value.

The later alterations in the examination lately sanctioned by the Council of the Royal College of Surgeons are, we cannot but think, another advance in the right direction. The candidate will now be examined in all the subjects of the curriculum, and important subjects to the dental student which have hitherto been very much slurred over, will receive their due share of attention.

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* Delivered at the Prize Distribution, National Dental Hospital.

I cannot think that these alterations entail any very great hardship on the dental student, as by taking the subjects separately, he will have fewer to keep up at a time, and can devote his attention more completely to those which each examination deals with.

He will now, after his registration as a dental student, have to pass a preliminary science examination consisting of chemistry, physics, and practical chemistry, this being identical with the first examination for the Conjoint Board, and I hope that this fact will be an inducement to many to go a little further and secure the double qualification which we should like to see every dental practitioner possess.

The next, or first professional examination will be a practical one in mechanical dentistry, and an examination in dental metallurgy by written paper.

Metallurgy has not received hitherto, its due share of attention at the hands of the dental student, and of its importance to him there can be no doubt.

The second, or final professional examination will be on the same subjects as the pass examinations hitherto held, with the exception of mechanical dentistry, which the candidate will have already disposed of.

There is a much vexed subject that I should like to say a few words on, and that is the subject of cramming. The greater competition in all professions has led to a more rigid exclusion of the unfit, and a corresponding development of the examination system, and it is of course the exigencies of the examination that have given rise to cramming.

The medical and dental student has to condense into a few short years an amount of knowledge entirely fresh to him, and that probably ought to occupy him nearly double the time, and the temptation is to cram that knowledge in the manner that will render it most available for examination purposes. I am afraid, however, that knowledge acquired in this way is not of the solid type that is best available for after use, the memory of the well-crammed student is a storehouse of badly catalogued material, and when his student days are over he may be "like Talleyrand's doctor, who knew everything, even a little physic."

Much of the student's trouble comes from the fact that school training is no training for any after work in physical science. I do not believe that the classical training which the schoolmasters all excuse on the ground of its being such an excellent discipline and training for the mind is that which best fits a man for after work in physical science.

While acknowledging the value of a classical training up to a certain point, what is wanted in schools, and I am happy to say is now adopted in some, is a proper training in some branch of physical science where practical work shall be conducted under a competent teacher, a training which shall make the boy reason out the why and wherefore of things and draw his own conclusions. An early training of this sort would be of immense value to the medical student, who now after leaving school and passing his preliminary examination in arts, embarks upon a course of study utterly strange and new to him not only in subject matter but in fundamental method. He has learnt what he has acquired, more or less by rote ; he has not exercised his reasoning faculties to any considerable extent, and he attacks his physiology and chemistry in the same way ; he crams up these subjects for examination purposes but never takes a real grasp of the great principles underlying them. If he could only be made to grasp these broad principles, his studies would have an interest to him that his usual methods give him little idea of ; "he looks abroad into the varied field of nature, and calls the delightful scenery all his own." Let a man try to master his subject, to get a good grip of it, and he will be much better able to meet the examiner than if he comes encased in an armour of crammed knowledge and formulæ. The examiner does not want some particular "shibboleth" but to see that the candidate is well grounded in his subject, hence questions in examination papers that make a man think, are just as valuable as those that bear on some especially practical subject.

The late Professor Huxley, who was such a great authority on educational matters, speaks very strongly as to the value of an early training in physical science. He says, "I hold very strongly by two convictions. The first is, that neither the discipline nor the subject-matter of classical education is of such direct value to the student of physical science as to justify the expenditure of valuable time on either ; and the second is, that for the purpose of attaining real culture, an exclusively scientific education is at least as effectual as an exclusively literary education. I need hardly point out to you that these opinions, especially the latter, are diametrically opposed to those of the great majority of educated Englishmen, influenced as they are by school and University tradition. . . . they hold that a man who has learned Latin and Greek, however little, is educated, while he who is versed in other branches of knowledge, however deeply, is a more or less respectable specialist, not admissible into the cultured class."

What the professional man wants, gentlemen, is not only trained fingers, but a trained mind.

We cannot have knowledge like clothes, ready-made, and even they are not usually the best fitting clothes. Knowledge must be acquired and assimilated by the student himself. Cramming is trying to take in ready-made knowledge, and like ready-made clothes, it will not bear hard wear.

We sometimes hear it said, it is no use to ask men such questions, they are so badly up they cannot answer them. Is this quite the correct way of looking at the case? Shall the profession be flooded by men of incapacity because they apply for the diploma? Are the unpromising students to be provided for by a judicious admixture of pap in their food, or are we to try and obtain the best material and fit it for doing honour to the profession? The instruction and examination should not be brought down to the level of the man who is deficient in intellectual power, but he should, if possible be brought up to the necessary standard, and if he cannot be raised to this, the profession is better without him.

I hope there are not any among the rising generation of students who will be content in after life to drudge on at their practice without taking up some branch of knowledge, and working at it for love—the labour will be its own reward, and who knows what hidden abilities and even genius may not be evinced in unexpected quarters? Many a man might have shone as a leader in science, but has lost his first opportunity and drifted away from what ought to have been his life's work, and the world is the worse off for the loss of him.

It is too often said that our profession is too limited an one to give scope for much original work, but I do not think we can justly say so.

In how many different directions does it not open opportunities to us.

In microscopy much is being done and much yet remains to be done in the study of histology and development of the dental tissues.

Bacteriology, a science still in its early childhood, deeply concerns the man who has to treat the mouth, and do his best to protect the body from many deleterious organisms that lodge and are nourished there, and concerning the exact nature and mode of dissemination of which much remains yet to be discovered.

Again, electricity and its new development cataphoresis gives an opportunity for study in another direction, and there are many other side subjects connected with the profession that will open up promising vistas to the earnest student. Every one should have a hobby and live up to it, and if it is a scientific hobby all the better.

We are nearing the end of the greatest century, so far as the advancement of natural knowledge is concerned, that the world has ever seen, and the student of to-day has before him the commencement of another, that will, I imagine, far outshine this one in scientific discovery. Much of the past has been occupied in laying the foundation of accurate knowledge, and the scientific men of the future will be employed in rearing upon this foundation a mighty temple of knowledge, in the building of which I hope it will be the privilege of many here to assist.

Cement and Amalgam Fillings.

By H. BALDWIN, M.R.C.S., L.D.S.Eng.

On first making experiments out of the mouth with the mixture of oxyphosphate cement and amalgam I found that its conductivity to heat was very high, too high to allow of its being used in sensitive teeth with large cavities ; this consideration, coupled with the likelihood of its becoming honeycombed on the surface, owing to the solution of the cement, led me practically never to use it.

I was struck, however, by the facility with which the two materials could be mixed together, and the readiness with which the oxyphosphate laid hold of the amalgam. From this the idea arose that it would be possible to line a cavity with the cement, and while the cement was still soft to fill the rest of the cavity with amalgam, thus combining the real advantages of both materials without the disadvantages of an intimate mixture of them.

I commenced filling large crown cavities in the mouth in this way, practically sticking the amalgam in with the cement. Being pleased with the results, very gradually I extended the range of cases in which I followed this method, till finally I arrived at the position of filling the greatest possible variety of cavities, which previously I would have filled with amalgam alone, and, furthermore, of filling a large number of cavities, in this way, which previously I would have filled with gold. This position I still maintain.

The *modus operandi* is as follows :—The cavity should be excavated with the usual care as regards removal of the decay, but the amount of undercutting which is necessary is very much less than for either amalgam or gold. The cavity should be thoroughly dried. The amalgam should first be mixed and of a convenient sort of consistency. The cement should then be mixed and of a decidedly thin consistency, not much thicker than would be used for fixing crowns. The cavity should then be filled with cement, preferably by means of the same spatula as has been used for mixing it. Then immediately a large piece of the amalgam should be pressed into the cement and, by means of a smooth rounded instrument, should be driven more or less firmly home, working from the centre to the circumference, and so expressing much of the cement on all sides. The edges of the cavity should then be quickly cleared of both cement and amalgam, by means of spoon or other excavators, till not a trace of anything is left at any of the edges, especially at the cervical edge, if the cavity is an interstitial one. This obviates the danger of getting the cement exposed on the surface when the work is finished. The remaining cavity should then be filled up with pure amalgam carrying it down to the cervical edge in small pieces, with perhaps a trifle more mercury added so as to ensure its going down completely, and then finishing with harder amalgam and squeezing with bibulous paper in the well-known way.

A matrix should be used in large composite cavities and may be applied either before commencing to fill or immediately after packing the first piece or pieces of amalgam and clearing the edges. Putting on the matrix after clearing the edges keeps the matrix clean and free from cement.

The cases for which this composite filling is suitable are practically all those cases which are generally considered suitable for amalgam alone, and a great many cases which are generally considered suitable for cement alone, and in addition a great many cases which would otherwise be suitable only for gold. All large interstitial cavities in molars and bicuspids and crown cavities which are fit to receive a hard filling at all may with propriety be filled by this method. There is little in common between a filling of this sort and an ordinary amalgam filling. Ordinary amalgam as a filling material is open to many objections which the combination is entirely free from, and the combination presents a number of merits which belong to it alone. Thus, to compare it, point by point, with gold or amalgam :—(1) it requires a much smaller sacrifice of healthy tooth substance ; (2) it leaves a stronger tooth ; (3) it necessitates much less pain in excavating ; (4) valuable time is saved in excavating ; (5) it interposes a non-conducting layer between the sensitive dentine and the metal ; (6) it adheres to the cavity ; (7) it is more water-tight ; (8) compared with amalgam, at all events, it does not stain the tooth, nor show through the thin enamel of a nasty colour ; and (9) it is quicker than gold, or even amalgam, *i.e.*, when amalgam is inserted with a due amount of care.

I venture to submit :—(1) that all those cases of cement fillings in back teeth which one so often meets with as permanencies would be better treated by coating the cement with amalgam in this way ; (2) that most teeth which are filled with cement as a trial for a temporary purpose would be better filled as a permanency in this way. Where the cement will be tolerated this combination will equally be tolerated, and whereas it is exceedingly difficult oftentimes to pack simple cement tightly against the cervical portion of a deep interstitial cavity it is perfectly easy, by means of the amalgam, to drive the cement well home. In passing, I would like to give it as my opinion that the supposed tendency of cement to undergo specially rapid solution at the cervical edge does not exist. The disappearance of the cement and appearance of a cavity in this situation is due to the cement never having been in absolute apposition with the tooth at the point, or to the decay there never having been thoroughly removed. The difficulty of packing plain cement at that point is not, I fancy, generally realised, and lies not only in the remoteness of the situation, but in the fact that a little moisture frequently bedews that part, and that the gum presents a prominent and possibly overhanging edge, which edge, when pressed upon, is specially liable to give forth a serous or sanious oozing; (3) that nearly every amalgam filling would be improved by being inserted in this way. I have used this method with gradually increasing frequency since my early days of practice, thirteen years ago, and to-day I hardly ever put in an amalgam without the preliminary adhesive stratum of cement. Of course, care and neatness are necessary in this as in every dental operation, and it does not do to leave a layer of cement outcropping at the edges. In a certain proportion of difficult cases this outcropping may occur, but if the greatest care be used it will only be in a small proportion, and can easily be rectified later, when its results begin to show. I would point out, moreover, that amalgam affords such an efficient means of packing home the cement that, even should the cement become exposed, it proves unusually durable.

The accompanying are specimens of this kind of work in large complicated cavities. One tooth and filling has been sawn through. This one shows how small a stratum of cement is necessary to prevent leakage, the cement evidently controlling the shrinkage or warpage of the amalgam. Presumably such alteration does go on in the amalgam, but being held close to the tooth by the cement goes on entirely at the surface. The other teeth were smashed through with cutting forceps.

The teeth were all soaked in water for some little time, and then dried in the usual way before filling, and immediately after were submitted to the ink-test for about forty-eight hours. One specimen shows the filling standing erect, attached by a rather narrow base, but held firmly to the tooth by the cement, although the tooth was broken open by means of cutting forceps.

This method is sticky and messy I admit, but increased efficiency is obtained, and practice soon enables one to overcome its difficulties, and in a very large number of cases to produce a filling which is quicker, easier, less painful at its inception, less liable to subsequent fracture of its retaining walls than can be produced in any other way —*The Transactions of the Odontological Society.*

Death Following the Administration of Nitrous Oxide.

By H. A. HARE, M.D., Philadelphia.

THE following case illustrates the influence which nitrous oxide gas may have when administered to persons suffering from atheromatous blood vessels. A man between 50 and 60 years of age visited the office of a well-known dentist who makes a specialty of extracting teeth under the influence of nitrous oxide gas, in order that he might have removed one or two molar teeth which were giving him trouble. He had often taken gas in the same dentist's office before, and always without any ill effects whatever. On this occasion he took the ordinary quantity, his teeth were extracted, and he returned to consciousness with the usual rapidity. He left the chair and walked to a washstand and began to rinse out his mouth with water. While doing this he stated that his right hand felt numb, then complained of the extension of this numbness up his arm, and rapidly to his leg and side. He was helped to a sofa, where in a few minutes he became partially unconscious. When I saw him the attack had already been in existence about twenty minutes. He was breathing stertorously, seemed to understand questions put to him, but was unable to answer them clearly, and in the course of a very few minutes passed into absolute insensibility, which, notwithstanding the use of venesection and other measures, deepened into a coma, in which he died about twelve hours after taking the anæsthetic.

This case is reported, not as a death due to the direct influence of nitrous oxide gas, but as an instance of the fact that the marked rise of arterial pressure which is produced by the administration of this drug during the period of anæsthesia may cause the rupture of a blood vessel in persons who have a tendency to apoplexy.—*Therapeutic Gazette*, *December*, 1896.

Death from Nitrous Oxide and Ether given for a Dental Operation.

THE Borough Coroner, H. A. Marlin, Esq., held an inquiry at the Windsor Royal Infirmary on March 27, into the death of Miss Julia Gath, a nurse in that institution, which took place on March 25 during an operation for the removal of teeth. The inquest was held in the out-patients' ward of the Infirmary.

Mr. Arthur Vernon Evans deposed that he was a registered surgeon and also a licentiate of the Royal College of Physicians. He was acting as *locum tenens* for Dr. Charsley, who was away on account of illness, and had been in the Infirmary ten days. During that time he came in contact with the deceased. She never consulted him with regard to any ailments, but she came two or three days previously to the Thursday—about the Tuesday—and asked for an anæsthetic, as she wanted some teeth removed. He wrote to Mr. Dainty making an appointment for the Thursday, he being the honorary dentist to the Infirmary. On the Thursday, Mr. Dainty's assistant (Mr. Veysey) came. Witness prepared the deceased for the operation ; she had previously asked for the gas to be administered. There were present himself, Mr. Dainty's assistant, the matron, and a nurse. Witness administered the gas. This was at 3 o'clock, and he administered afterwards about a drachm and a half of ether ; then, when she was under the ether, he allowed Mr. Dainty's assistant to take out the teeth ; he extracted three. The deceased suddenly changed colour ; witness immediately felt her pulse, and removed her from the chair to the floor. He commenced artificial respiration, gave her a hypodermic injection of strychnine, rubbed her gums with brandy, gave her nitrate of amyl, and also an inhalation of ammonia. All this time he carried on artificial respiration. He went on with this until about 6 o'clock the same evening, but without any effect. He also sent for assistance. He thought deceased died within about three minutes after the collapse. Witness sent for Dr. Gooch during the time he was endeavouring to restore animation, and he assisted him. Before administering the ether, he ascertained that deceased was a proper subject for it by feeling her pulse, and finding that it was quite normal, and that she was quite in a condition—as far as he could tell from external signs—to undergo the operation. He took the proper course in administering the gas and the ether.

The Coroner : Is it usual to administer gas and ether as well ?—Yes, very.

Ether counteracts the effects of the gas with regard to the action of the heart, does it not ?—Yes.

Mr. Charles Ackland Veysey, assistant to Mr. Dainty, dentist, Windsor, stated that on Thursday, March 25, an appointment was made for Mr. Dainty to attend at the Infirmary, but he was not able to do so, and witness did so for him a little later—just before three. When he arrived he found one of the nurses was to have gas, and, after preparing the patient in the usual way, Dr. Evans administered it. Witness examined the patient's mouth beforehand to ascertain what was necessary to come out, and found a lot of bad stumps—at least four—and two bad teeth which required removal. She appeared to be in a proper condition, and not in the least excited or nervous. Dr. Evans applied the gas in the usual and proper way, and then applied ether.

Dr. Edward Casey, Windsor, said upon the warrant of the Coroner he made a *post-mortem* examination of the deceased on Friday afternoon. He found discolorations about the back and sides of the neck due to the condition of the blood, otherwise the body was in a perfectly natural condition. On examining the body internally, he found all the organs perfectly healthy ; the blood was a remarkably dark fluid, the heart was flaccid and empty, the stomach was empty, the lungs were not engorged with blood, and these appearances went to prove that death resulted from failure of the heart.

The Coroner : You have heard the evidence of the doctor of the Infirmary, and of the dentist ; it appears that gas was administered for performing the teeth extraction, and also ether. Is it in your opinion that the gas had an effect upon the heart, causing failure of action ?—Yes, I think the gas was probably the cause ; that it paralysed the heart.

The ether would not affect it in that way?—No, the ether would not be the actual cause; rather it would tend to lessen the probability of death.

In reply to the Foreman, Dr. Casey said he had never had experience of gas; he had used chloroform himself.

Dr. John William Dickson, B.M. and B.S. Camb., one of the anæsthetists at St. George's Hospital, and Professor of Obstetrics, also gave evidence.

The jury having considered their verdict, the Foreman said they were of opinion that death was in accordance with the medical evidence. The jury were also of opinion that everything was done that could possibly be done by the medical gentleman (Dr. Evans), and they desired to express their sympathy with him, and also with the family of the deceased.—*Windsor and Eton Express.*

Death from Chloroform given for a Dental Operation.

We copy the following account of this case from the *Southampton Times and Hampshire Express* (March 13).

The Deputy-Borough Coroner (Mr. H. K. Pope) held an inquest at Rockville, The Avenue, on March 9, on the body of John Lyons Horne, the ten-year-old son of Mr. Robert Benjamin Horne, manager of the Southern Counties Dairy Company, who died whilst under chloroform on Sunday during the extraction of some of his teeth. The Deputy-Coroner having briefly stated the facts, the father of deceased gave evidence of identification.

Mr. H. C. Corke, surgeon dentist, having stated that he had been attending deceased for his teeth, said that at about noon on Sunday he met Dr. Bencraft at the house, by appointment, for the purpose of removing some stumps. The doctor administered chloroform in the usual way, and after about five minutes there was a little vomiting, which was usually the case, the doctor then administering a few more whiffs. Witness then removed four stumps, and on removing the fourth the child cried out a little, whereupon Dr. Bencraft administered a little more. There were then three other stumps to be drawn, when breathing ceased immediately, there being no sign of vitality after that. The doctor commenced artificial respiration at once, and kept it on for quite half an hour without avail. The operation was carried out with the consent of the parents of deceased, whose sister had previously undergone a similar operation with success. In answer to the Deputy-Coroner, Mr. Corke said it was impossible to avoid an occurrence of this kind occasionally. He had acted at quite fifty such operations with Dr. Bencraft, that gentleman being considered one of the best administerers of chloroform in the town.

Dr. Russell Bencraft said he met Mr. Corke at that residence at twelve o'clock on Sunday for the purpose of administering chloroform to deceased. He first of all examined the heart and pulse, and considering it a fit case proceeded to administer it in what he considered the safest manner, viz., by sprinkling a few drops at a time on a handkerchief. The chloroform he used was Duncan Flockhart's, which was the best obtainable in the market. Witness used about two drachms, or 120 drops for the whole operation. In answer to the Deputy-Coroner as to how much was usually administered to a child or adult, Dr. Bencraft said it varied considerably, some subjects requiring more than others. He had used as much as an ounce on an adult. He had previously given instructions, and he understood that the child had had nothing to eat since eight o'clock on the morning in question. During the extraction of the fourth tooth the child cried out a little, and witness gave him a few more whiffs, in order that the operation might be proceeded with, when the child suddenly became pulseless. Artificial respiration was immediately resorted to and kept up for some considerable time, but without avail. Other medical aid was also procured, and Drs. Welch and Hall, jun., afterwards attended. The doctor also added that it was impossible to prevent such a thing happening, although he might say that the average of deaths whilst under chloroform was 1 in 3,300. The fact of the child crying out during the operation was proof that the dose was a light one. Death was due to syncope from sudden failure of the heart's action.

The Deputy-Coroner then briefly summed up, saying that he thought it would be clear to the jury that the death of deceased was purely accidental. Mr. Corke and Dr. Bencraft were well known and highly qualified in their professions, and he thought everything possible had been done in the case.

The jury unanimously returned a verdict in accordance with the medical evidence, and added an expression of sympathy with the parents of deceased.

A New Medical Publication.

A new periodical, entitled *Treatment*, has recently been started by the Rebman Publishing Company. This journal is to be issued every second and fourth Thursday in the month, and is to be mainly devoted to the discussion of "Treatment." The subject-matter is to be divided into four parts, each of which will have a separate and responsible editor, who will be assisted by a staff of sectional editors, one for each department. Each issue will consist of one part, so that the same subjects will be dealt with every other month, or six times a year. The welcome fact is that medical politics and polemics are to be avoided.

Reviews and Notices of Books.

DENTAL SURGERY FOR MEDICAL PRACTITIONERS AND STUDENTS OF MEDICINE.

By A. W. Barrett, M.B.Lond., M.R.C.S., L.D.S. Third Edition.

This book is divided into eight chapters under the following headings: The Teeth Generally, The First Dentition, The Second Dentition, Abnormalities of Permanent Teeth, Irregularities in the Positions of Permanent Teeth, Dental Caries, Toothache, Injuries of the Teeth, Preparation of the Mouth for, and the Wearing of Artificial Teeth, Anæsthetics, general and local, Fractures of the Maxillæ, Extraction of the Teeth.

We can congratulate the author upon his new edition, which is in many respects a vast improvement on previous ones, and the book no doubt will be useful to the medical practitioner—it is not intended for the dental student. The book would be materially improved if the chapters about artificial teeth and anæsthetics were omitted, and one upon the borderland between surgery and dental surgery inserted, including such subjects as dental and dentigerous cysts, diseases of the gums, epulis, salivary calculus in the salivary ducts, &c. The book is well printed and freely illustrated with eighty-six diagrams.

COMPEND OF DENTAL PATHOLOGY AND THERAPEUTICS.

By Henry H. Burchard. Philadelphia: The S. S. White Dental Manufacturing Co., 1886, pp. 138. Price $1.75 net.

This little volume is, as the author states, essentially a notebook, and in a limited space, namely, 138 pages, the guiding principles of dental pathology and therapeutics, along with dental histology, are clearly and concisely dealt with. The facts stated are, on the whole, correct, although there are one or two statements which do not altogether coincide with our own views. The book is written in the form of questions and answers, and should prove useful to the student preparing for the ordeal of examination.

A PRACTICAL TREATISE ON ARTIFICIAL CROWN AND BRIDGEWORK.

By George Evans. Fifth Edition, revised, with 625 illustrations. Philadelphia: The S. S. White Dental Manufacturing Co., 1896, pp. 330. Price $3.00 net.

On previous occasions we have had the pleasure of noting our appreciation of this most excellent treatise on crown and bridgework. The present edition has been thoroughly revised, and many obsolete methods have been eliminated, while new methods and suggestions have been incorporated, so that the present edition may be looked upon as a thoroughly "up to date" manual upon this most important and valuable branch of the dental art.

Obituary.

Sibley W. Read, L.D.S.Eng.

With much regret we have to chronicle the death of Sibley W. Read, on March 17. For some time he had lived at Sunbury-on-Thames, and on his way to London on the day of his death, in crossing the railway line to catch the train, he was knocked down by a pilot engine, and killed.

Sibley Read was born July 2, 1864, at 3, Broad Street Buildings, London, E.C. He was partly educated at the Grammar School, Stevenage, Herts, where he obtained a scholarship. On leaving he served his mechanical pupilage with his father, Mr. H. B. Read, of 30, Finsbury Square, with whom he afterwards practised. He joined the Dental Hospital of London, and later the Medical School of the London Hospital. He obtained the L.D.S.Eng. He became Senior Dental Surgeon to the Metropolitan Hospital, Assistant Dental Surgeon to the National Dental Hospital, and Dental Surgeon to the Cripples' Home. He was a liveryman of the Leather Sellers' Company, and took great interest in volunteering, serving first in the Volunteer Medical Staff Corps, in which he reached the rank of first-class Staff Sergeant. He then joined the Horse Battery of the Honourable Artillery Company, and was at the time of his death Senior Corporal. In the former regiment he took prizes for recruiting and smartness in drill, in the latter he took a prize at the Royal Military Tournament for gun driving.

James Salter, M.B., F.R.S.

Since our last issue we have to record the loss, by death, of an old and distinguished member of our profession, in

James Salter, M.B., F.R.S., who passed away at Basingfield, in Hants, aged 72 years.

It would probably be wrong to speak of the "sadness of farewell" as applied to one who for many years was personally so little known to the majority of the profession, nevertheless there are many who still recall the influence of Mr. Salter, not merely as a scientific investigator and teacher, but also in matters relating to dental education.

Born at Poole in Dorsetshire, and educated at King's College, London, where he had a distinguished career, he became an M.B. of London University, and succeeded to the large city practice of Thomas Bell, F.R.S. For many years he held the post of Dental Surgeon and Lecturer on Dental Surgery to Guy's Hospital, and later became Examiner in Dental Surgery at the Royal College of Surgeons of England. He was also a Fellow of the Royal Society, of the Linnæan, Pathological, Zoological and Ray Societies. In 1874 he married Fanny, daughter of the late Edward Haycock, Esq., of the Priory, Shrewsbury, and retired from practice to Basingfield in 1881.

It is probably by his contributions to dental literature that Mr. Salter is best known, amongst which may be mentioned his article on "The Diseases of the Teeth" in the earlier editions of Holmes' "System of Surgery." Many of the papers to the various societies are embodied in his work on Dental Pathology and Surgery published in 1874.

In this ably-written work his views are set forth with originality, both as regards his interpretation of the structures of the teeth, and also as to their classification. Certainly one can find much that is admirable and not a little which has received general acceptance; but some of his conclusions, especially in reference to the nature of the dentinal tubuli, were stoutly contested at the time, and have but few, if any, supporters in the present day. Possibly the differences between a semi-fluid contents of the tubes, which was the view he held, and a soft fibril, was one which was more apparent than real; indeed, his opinions on this point could hardly have differed more than do those in the present day on the subject of the odontoblast cell. But Mr. Salter was seldom open to conviction, and it is probable that it has caused his book to be approached with some prejudice. His large clinical experience enabled him to contribute much valuable information — for example, his chapters on phosphorous necrosis and odontomes, and his description of the casualties arising in tooth extraction. Mr. Salter also availed himself of the many opportunities which occurred of collecting rare and instructive dental specimens, most of which are now in the museums of the Royal College of Surgeons and of Guy's Hospital.

On many controversial questions, especially those which found a solution in the Dentists Act, Mr. Salter held strong views, and although, perhaps, not the prevalent ones, there are few who would deny that his ideal was stimulated by a lofty sense of the responsibilities and requirements of the practitioner of dentistry.

It is pleasant to record that Mr. Salter was able, for many years, to enjoy a quiet retirement amidst the country beloved and made famous by Gilbert White. As president of the Basingstoke Mechanics' Institute, as patron of the Cottage Hospital, and in many other ways, he showed himself able to appreciate a learned leisure.

Miscellanea.

The Dentists' Register for 1897.

The Dentists' Register for 1897 shows that 4,860 persons were at the close of the year qualified to practise dentistry. Out of this number 1,519, or 31·25 per cent., were licentiates in dentistry, 785 holding the English diploma, 159 and 130 the Edinburgh and Glasgow diplomas respectively, and 440 the Irish qualification. Surgical and medical qualifications were held by 184 out of the 1,519, while 30 names were registered as persons holding simply medical or surgical qualifications. There were 24 dentists with foreign diplomas, while 3,287 possess no diploma whatever.

The Registers of Medical Practitioners and of Medical Students.

The Medical Register and the Register of Medical Students for the year 1897 have been issued, and may be obtained from the publishers, Messrs. Spottiswoode & Co., 54, Gracechurch Street. Speaking summarily, the register shows that the new registrations in 1896 were 1,385, as compared with 1,446 in the preceding year. Nevertheless, the numbers on the present Medical Register are 34,478, as compared with 33,601 in the preceding year. Coming to the new registrations of medical students in 1896, and therefore in the Register now published, we find them to be 1,741, as compared with 1,838 in 1895. Of these registrations 919 were in England, 557 in Scotland, and 265 in Ireland. Not the least interesting part of the Students' Register is the names of the various schools from which the students date as commencing medical study.

Nasmyth's Membrane.

In the issue of the Journal, dated January 15, 1895, we referred in an editorial to some views advanced by Professor Paul, of Liverpool, on the structure of Nasmyth's membrane. This author, as many will no doubt remember from his observations, inclined to the view that the membrane was merely a remnant of the enamel organ, and not a thin layer of cementum. In a paper recently read before the Liverpool Odontological Society, he again referred to the subject, and since then in a letter to our contemporary, the *Dental Record*, Mr. Charles Tomes entirely acquiesces in the views held by Professor Paul.

The membrane has now been shown to be composed of two layers, the outermost being composed of large flattened epithelial cells, beneath which is a thin translucent pellicle, usually marked with hexagonal impressions derived from the ends of the enamel prisms. According to Professor Paul the best method of preparing a specimen of the membrane is as follows:—A fresh unworn tooth is taken immediately after extraction and placed in a phloroglucin decalcifying solution for a few minutes. As soon as the membrane begins to separate the tooth is removed and well washed in several changes of water. It is then stained in Ehrlich's acid hæmatoxylin, again washed, and placed in an aqueous solution of eosine. Finally, the membrane is stripped from the tooth and mounted in Farrant. By this process a permanent preparation of Nasmyth's membrane may be made within a quarter of an hour after the extraction of a suitable tooth, and one in which the nuclei of the epithelial cells are often brilliantly stained.

The Examination of the Teeth of Inmates of Public Institutions.

We have received copies of the subjoined correspondence from Mr. Rendle :—

BRISBANE,
January 15, 1897.

The Hon. the Colonial Secretary, Brisbane.

SIR,—I desire to obtain permission to make some examinations and records of a scientific character in relation to the teeth of inmates of some of the public institutions of the Colony—reformatory, gaol, asylums, and schools. Such examinations will, of course, only be made with full consent of the person examined, and with proper consideration to the feelings of everyone. I shall feel obliged if you will grant me permission to make arrangements as to details with the superintendents of the several institutions.

I am, Sir, yours faithfully,
RICHARD RENDLE, F.R.C.S.Eng.

HOME SECRETARY'S OFFICE,
BRISBANE.
January 13, 1897.

SIR,—I have the honour by direction to acknowledge the receipt of your letter of the 5th inst., requesting permission to make examinations and records for scientific purposes of the teeth of inmates of some of the public institutions under this department, and to inform you in reply that the Home Secretary declines to grant the permission sought.

I have the honour, &c.,
W. H. ORR.
Under Secretary.

RICHARD RENDLE, Esq., F.R.C.S.Eng.

It appears to us to be a matter for regret that the permission asked for should not have been conceded, and we can hardly imagine any reason why it should have been refused. Investigations of a like nature undertaken in this country and elsewhere have led to the material advancement of knowledge, and have placed upon a basis of established fact several points which had hitherto only been matters of conjecture. And it is only in public institutions of various kinds that a sufficient number of persons drawn from particular classes of the community can be found gathered together, so that if these are closed to the investigator, the knowledge cannot be obtained at all. And now that Australia, at least in certain parts, is doing much to encourage science, and is contributing substantially to the general store of knowledge, it seems surprising that the Colonial Secretary at Brisbane should feel obliged to take this attitude in response to such a request.

The Safety of Nitrous Oxide Gas Anæsthesia.

An abbreviated report, taken from the *Windsor and Eton Express*, of a death from nitrous oxide and ether will be found amongst the abstracts published in this issue. In the evidence given one medical man stated that in his opinion the cause of death was paralysis of the heart due to the nitrous oxide, but this seems hardly to be the explanation when viewed by the facts stated as to the administration, for we notice that nitrous oxide was first administered, and then ether to the amount of one drachm and a half, and subsequently three teeth were removed, so that it seems somewhat doubtful if the nitrous oxide played the part attributed to it. The public reading the report, too, are very likely to be misled into thinking that nitrous oxide and ether is more safe than nitrous oxide alone. But such is of course not the opinion of the leading anæsthetists. The general safety of nitrous oxide gas as an anæsthetic inhalation can hardly be called in doubt after the extensive experience of its employment for dental operations during the past fifty-three years. By competent authorities it is estimated that several million administrations have been conducted in this country, on the Continent, and in America, since the year 1844. Very few fatalities have resulted from its use, and when it is borne in mind that a large proportion of these administrations have been in the hands of unqualified and inexperienced persons, the resulting immunity from risk is all the more remarkable.

We have made a detailed inquiry into the reported fatalities from this anæsthetic, and though we are of opinion that there has been a concurrent cause of asphyxia, either in the patient's system itself or in the accidental presence of foreign bodies in the air-passages, in most of these instances, and that a primary cardiac failure is not clearly proved to have ever occurred at all, yet we do not fail to recognise that the absence of oxygen (which is the *underlying* asphyxial factor in pure nitrous oxide gas anæsthesia) may, if sustained, secondarily produce cardiac depression, resulting, in rare instances, in circulatory failure. It has been clearly demonstrated, during the past decade, by a large and increasing experience, that the entire absence of oxygen during nitrous oxide gas administration is not essential to the production of complete anæsthesia, and that the introduction of a limited amount of atmospheric air or, better still, regulated percentages of pure oxygen with the gas, reduces this *underlying* asphyxial factor to the vanishing point.

In the case of nitrous oxide gas and ether administered for the purpose of prolonging available anæsthesia after removal of the facepiece, it is only necessary that the patient should inhale a small quantity of gas, enough to cover the taste of ether, which latter rapidly acts as a circulatory stimulant. This procedure also can be conducted in the presence of sufficient atmospheric air to prevent asphyxial symptoms, and thereby depression arising from such a cause can be abolished.

The Royal Medical and Chirurgical Society.

We notice amongst the recently appointed office bearers of the Royal Medical and Chirurgical Society the name of Mr. Charles Tomes, F.R.S., as one of its Vice-Presidents. We heartily congratulate Mr. Tomes on the honour thus conferred upon him, and ourselves on the fact that our speciality has so able and popular a representative on the executive of one of the oldest and most important of the London Medical Societies.

Miliary Tuberculosis of the Mucous Membrane of the Lips and Cheeks.

At a recent meeting of the Society of Dermatology and Syphilography of Paris, Dr. Thebierge showed a man, 30 years of age, with extensive tubercular lesions of the buccal mucous membrane, which developed almost simultaneously with tubercle of the lungs. The mucous membrane of the cheek was swollen in the form of a large patch, with a considerable number of miliary tubercles. Much the same condition was present on both lips, although the miliary tubercles were not so abundant as in the cheeks. No ulceration was present, and the sub-maxillary glands on both sides were enlarged.

An Interesting Case of Membranous Stomatitis.

A case of rather exceptional interest was recorded by Mr. Stanley Colyer, at a recent meeting of the Students' Society of the Dental Hospital of London. The patient, a man aged about 20, had been sent to the Western Fever Hospital, suffering from supposed diphtheria. The membrane was not symmetrical, but was confined entirely to the left side of the mouth, covering the hinder portion of the left border of the tongue, the gum around the lower molar teeth, and the tonsil. The case being unusual, careful bacteriological examinations were made, but in no instance was the Klebs-Loeffler bacillus found. After the patient had been in hospital one or two days it was discovered that he had an abscess in connection with one of his lower molars. The offending tooth was removed, and from that time the membrane began to clear up, and soon disappeared.

The Southampton Board of Guardians has appointed a dentist, at an honorarium of ten guineas a year.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

What is the Reason Black Rubber becomes Porous?

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In reply to Mr. Blandy's question, What is the reason black rubber becomes porous? it is vulcanised at too high a temperature. The following time will produce sound cases. Vulcanise at 300° for 1¾ hours; if using a thermometer on no account allow it to exceed this heat; if using a pressure gauge, 75lb. pressure for the same time. The themometer gives the temperature of the lid and not the inside temperature of the vulcaniser, as can be proved by using a thermometer as well as a pressure gauge, when the following difference will be noticed: the pressure gauge will register 75lb. and give the inside temperature at 320°; the themometer will register 295° to 300°, showing a difference of 20° to 25°.

I have used a self-regulating gauge over ten years, and have had no porous cases during that time.

I am, yours truly,
T. A. B.

The late M. Paul Dubois.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I trust you will allow me to take up a small amount of your valuable space to bring before your readers' notice the possibility of doing a service for the widow of our esteemed and lamented friend, the late M. Paul Dubois, whose sad and tragic end last Easter must be fresh in memory.

The Dubois Memorial Fund, so freely subscribed to by his many friends, has sufficed to complete the furnishing of the charming country house he had just built and to provide a small annual income for the widow and her family.

As the income is very limited, she is anxious to increase it, and so to be enabled to make a better provision for her children. With this object in view she has decided to let a part of her house to English visitors wishing to reside for a time near Paris. Her house is delightfully situated on an elevation about one hundred yards from the river, at Chatou, fifty minutes from Paris, on the route to St. Germain, which is within easy walking distance. She would be willing to let her rooms either with or without board, as may be required. In the former case her charge would be 300 francs, in the latter 80 francs, a month.

Feeling sure that you would be glad to give publicity to this, I have ventured to send it for insertion in the hope that her case may meet the eyes of some who may have friends projecting a visit to France, and who would be glad to know of a comfortable residence in a French family. If so, please note address for future reference:—
Madame Dubois, 7, Avenue Gambetta, Chatou.

Yours truly,
GEO. CUNNINGHAM.

2, *King's Parade*, *Cambridge*,
April 7, 1897.

Books Received.

Clinique Dentaire et Dentisterie Operatoire, par Ch. Godon. Avec 62 figures intercalées dans le texte. *Paris:* Librairie J. B. Baillière et Fils, 1897.

The International Dental Journal, The Ohio Dental Journal, The Birmingham Medical Review, Guy's Hospital Gazette, Pediatrics, The Pharmaceutical Journal, The International Journal of Microscopy and Natural Science, Skandinaviska Tandläkare Forinengens Tidskrift, Treatment, The Chemist and Druggist, The Pennsylvania School Journal, Edinburgh Evening Dispatch, La Odontologia, The Dental Register, The Dental Digest, The Dental Review, Le Progrès Dentaire, Revue Odontologique, Items of Interest, The Cosmos.

Letters and other Communications received from :—

T. A. Goard ; W. H. Dolamore ; J. Stephenson ; H. P. Joscelyne ; Messrs. Street and Co. ; M. de Boer ; The Rebman Publishing Co.; T. A. Banton ; A. T. Hilder ; I. Renshaw ; G. Cunningham.

Appointments.

Wm. J. Royal, L.D.S.Glas. to be Assistant Dental Surgeon to the Royal United Hospital, Bath.

Harold J. Pickering, L.D.S.Eng., to be Dental Surgeon to Felsted School.

Note.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 5. MAY 15, 1897. VOL. XVIII.

The Influence of Salter's Pathology on the Practice of To-day.

In the last issue our readers were made acquainted with the death of James Salter, and of the leading facts of his life. It may be well, now, briefly to consider the influence his investigations in pathology have had in the advancement of our practice. The direction of Salter's inquiries is clearly set forth in the preface to his work on "Dental pathology and surgery," in which he says, "It appeared to me that there was a considerable field of surgery and pathology, a sort of debatable ground between that occupied by the surgeon and by the dentist, which was open to further research, and which would amply repay the labour of investigation." That Salter was specially fitted for such a task is apparent from the fact of his having been engaged, during his earlier years, in the practice of general surgery; and that his aims were largely realised we think his writings sufficiently show; certainly much that was obscure when he began is now well recognised, and much also that was debatable ground in practice has since become the province of the dental surgeon. For example, Salter clearly set before us some of those cases in which the knowledge of the operating surgeon requires to be supplemented by the special experience of the dental practitioner, for the purposes of exact diagnosis, and it is curious that a quite recent confirmation of the advantage of this wider knowledge on the part of the dental surgeon, of priceless value to the patient, was given in a communication by Mr. Baldwin at the Odontological Society.

To instance another of the borderland cases set forth in his book, we may mention one called "Transparent Hypertrophy of the Gums," and nowhere else described, we believe, until the recent case of Mr. Storer Bennett's, published under the title of a "Case of Lampas," and further detailed by Mr. Christopher Heath, brought it again prominently to our notice, and confirms us in our opinion of Salter's wide experience and accuracy of observation.

Regarding the special prominence of some, and the omission of other, subjects proper to dental science, he says, "It has been my desire only to express views and record observations where I could do so with authority, or at least as the result of independent thought and investigation, and I have wished, too, that my book should be on dental surgery, rather than on dentistry proper." While justifying these limitations, Salter has left us ample illustration of his work. On the more ordinary forms of dental disease we think his opinions were sound, and have well stood the test of time, though some were expressed more than forty years ago.

Although his work was completed before the revolutionising discoveries of Pasteur had become thoroughly accepted, it is interesting to note Salter's reasonings on points which the germ theory now makes clear. Speaking of polypus of the pulp, he says "alveolar abscess associated with these teeth is very rare, indeed, the phenomena of the two conditions are quite opposite ; they may perhaps be compared to inflammatory action where it can, and where it cannot, get rid of its results, as, for instance, to a granulating wound that sheds its pus without pain, distress, or irritation, and an unopened abscess with all the local and constitutional irritation and distress that accompanies it." The close analogy of these words to the remarks made last year by Lord Lister at the British Medical Association meeting, when speaking of the protective action of granulating surfaces, will strike many of us, and may be taken as a fair sample of Salter's reasonings from general principles.

Altogether we fancy there are many of these studies, both of common and uncommon disease, which have widened the experience and helped the practice of many in the present day, and in so far as he contributed to it our thanks are due to Salter. Errors no doubt are to be found, of opinion, perhaps, more than of fact, but, read without prejudice, there is much that is good in Salter, for he both knew his work and stood up to it, and one might well sum up both his faults and his excellencies in the biblical words, "Whatsoever thy hand findeth to do, do it with thy might!"

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

THE ANNUAL GENERAL MEETING of the British Dental Association will be held in the Medical School Buildings of Trinity College, Dublin, on Tuesday, Wednesday, and Thursday, August 17, 18, and 19 next.

Members desirous of reading papers are requested to communicate with the Honorary Secretary, 40, Leicester Square, London, W.C.

Members willing to give demonstrations are requested to communicate with Mr. G. M. P. Murray, Honorary Secretary, Irish Branch, 10, Hume Street, Dublin.

Mr. Hopewell Smith, Honorary Secretary of the Microscopical Section, will be pleased to receive promises of papers, demonstrations, and the loan of specimens, at Lindum House, Boston, Lincolnshire.

W. B. Paterson,
Honorary Secretary.

The following is a brief outline of the arrangements in progress for the Annual General Meeting as reported by the Honorary Secretary of the Local Committee to date.

Monday Evening, August 16.

It is proposed to inaugurate the meeting by a Reception to be held by the President and Council of the Irish Branch.

Tuesday, August 17.

The business of the meeting will be transacted in the Medical School Building of Trinity College.

The Demonstrations will take place in the New Dental Hospital which adjoins the Medical School.

Rooms will be set apart for the use of members in the Hotel Metropole, Sackville Street.

In the evening it is proposed to hold a Dinner at the Royal College of Surgeons for Dental Licentiates and Fellows and Licentiates of the College practising dentistry.

Wednesday, August 18.

The Microscopical Section's specimens will be displayed in the Pathological Laboratory of Trinity College.

In the evening a Smoking Concert will be given by the "Odontoblasts."

Thursday, August 19.

After the business of the day, the Annual Dinner will be held in the "Pillar Room" of the Rotunda.

Friday, August 20.

An excursion to Glendalough, Co. Wicklow, a spot of great natural beauty, and possessing very considerable attractions from an archæological point of view, will take place.

The Committee having charge of this excursion will make all the necessary arrangements for special train, conveyances, and luncheon.

It is proposed to offer facilities to members who desire to ride bicycles, and a van for these machines will be attached to the train. [The roads in Ireland are good for bicycling, and the eight miles from Rathdrum to Glendalough on this trip are particularly so.]

There are other arrangements for the entertainment of members visiting Dublin under consideration, and these will be announced at a later date.

In the week following that of the British Dental Association Meeting the Dublin Horse Show takes place. It is considered to be the greatest show of its kind in the kingdom, and such is its immense popularity that it is difficult to obtain hotel accommodation in Dublin during show week unless very early application for rooms is made beforehand. This information is of course only of use to members intending to prolong their stay in Dublin. The British Dental Association

Meeting is not affected thereby, as the following list of hotels shows :—

Dublin Hotels.

Metropole	will take	40 to 50	in the B.D.A.	week.
Maples	,,	30 ,, 50	,,	,,
Gresham	,,	30	,,	,,
Hibernian	,,	25 ,, 30	,,	,,
Central	,,	25	,,	,,
Morrisson's	,,	20	,,	,,
Russell's	,,	20	,,	,,
Dolphin	,,	15	,,	,,
Jury	,,	15	,,	,,
Franklin's	,,	10	,,	,,
Grosvenor	,,	5	,,	,,

The Shelbourne guarantees no accommodation for the week.

A list of apartments and other hotel accommodation, both in and out of Dublin, will probably appear before the issue of the official programme.

[Railway and boat facilities from England will be announced later. It is possible that arrangements will be made for members, who choose, to travel together in "saloons," as at former meetings. It may be mentioned that the London and North Western Railway Company have reduced their fares to Dublin, and have accelerated the service by new large and fast boats. Third class ordinary fares have also been established upon the Mail Express route *viâ* Holyhead and Kingstown.]

Central Counties Branch.

A MEETING of the Central Counties Branch of the British Dental Association was held at the Dental Hospital, Birmingham, on Thursday, April 1.

The Council met at six o'clock, under the chairmanship of the President (Mr. F. E. Huxley).

The following members were present :—Messrs. J. T. Craig, J. E. Parrott, E. A. Vickery, A. E. Donagan, J. Mountford, Breward Neale, H. R. F. Brooks, F. W. Richards and A. T. Hilder.

At the general meeting which followed there were present, in addition to the above :—Messrs. Fitter, Willis, W. G. Owen, Knott, Fisher, J. D. Whittles, Shedden, and Cale Matthews.

The minutes of the last meeting having been read, confirmed and signed—

Mr. MOUNTFORD proposed and Mr. CRAIG seconded, that Mr. Richards take the chair, the President having left the meeting.

A collection in aid of the Benevolent Fund amounted to 11s. 8d.

The following suggestions were reported from the Council, and agreed to *nem. con.* :—

That the annual meeting be held on Friday and Saturday, July 9 and 10.

That the business meeting be held on the Friday evening, at six o'clock.

That the annual dinner be held in Birmingham, on the Friday evening after the business meeting.

That the meeting be continued at 9.30, on the Saturday morning, and consist of demonstrations, papers, &c., at the Dental Hospital.

That the 12.20 train be taken to Stratford-on-Avon, where lunch shall be taken ; after this, a drive to certain picturesque spots near.

(A detailed programme will be sent round when all arrangements are made.)

The PRESIDENT, the HON. TREASURER, and the HON. SEC. then gave the results of their enquiries in the matter of Mr. Knott's resolution of October 15 of last year, and a discussion then followed, in which Messrs. Cale Matthews, Knott, Craig, Richards and others took part. Finally it was decided, with one dissentient only, to bring the resolution under the notice of the local medical societies at the beginning of their next winter Session.

A paper was then read by Mr. J. Dencer Whittles, entitled "Our Teeth, and their Osseous Environments," which was illustrated by photographs projected by the lantern. The subject was most exhaustively treated, and proved of a highly instructive order.

Votes of thanks having been passed to the reader of the paper and to the Chairman, the meeting terminated.

Southern Counties Branch.

THIS Branch held a meeting at the Technical Schools (kindly lent for the occasion by the Mayor and Corporation), Brighton, on Saturday, April 10, which was entirely given up to demonstrations in continuous gum and porcelain crown work, by Messrs. J. H. Gartrell and Harry Rose. Messrs. C. Ash & Sons and the Dental Manufacturing Co. also exhibited their various furnaces, so that during the afternoon a practical demonstration was given of the working of seven or eight different kinds of furnaces. Unfortunately, the current was not strong enough to enable the Dental Co. to bake a piece by their electric furnace.

Amongst those present were the following :—Mr. J. H. Redman (President), Dr. Walker, Messrs. F. Canton, H. J. Kluht, J. H. Reinhardt, J. J. Bailey, and H. Rose (London), S. Lee Rymer, E. H. Field (Croydon), Arthur King (Guildford), Charles Foran (Portsmouth), F. H. Ellwood (Redhill), J. H. Whatford, J. T. Foran, D. Barton (Eastbourne), H. Beadnell-Gill (Norwood), Frank Bell, W. B. Bacon, L. Maxwell, W. T. Trollope (Tunbridge Wells), C. S. Reed, W. J. Turner (Folkestone), P. W. Greetham (Penge), A. L. Goadby (Reading), G. O. Richards (Richmond), H. O. Colyer (Ryde), J. T. Whatford, D. E. Caush, T. H. Elliott, J. Dennant, John Wood, W. R. Wood, C. Berrington Stoner, E. L. Norris, F. V. Richardson (Brighton), F. R. Flintan (Weybridge), J. C. S. Harper (Newcastle), J. H. Gartrell (Penzance), and others.

Mr. GARTRELL demonstrated a new bridge furnace for firing partial continuous gum pieces, crowns, &c., and he also showed some specimens of porcelain crown work.

Mr. HARRY ROSE gave a demonstration on the use of Nelson's petroleum blast and furnace in continuous gum work. He said :—

I have used this apparatus now for over three years, and find it works in the most satisfactory manner ; for myself I do not desire anything better.

Starting with the furnace cold, one can get up heat and fire a case under three-quarters of an hour. Firing these cases seems to be the dentist's greatest difficulty, and with an ordinary coke furnace one requires some considerable amount of experience in order to maintain a controllable temperature, as the heat is never stationary. With this petroleum blast, on the contrary, any desired heat can be maintained, and the temperature can be raised or lowered at will ; so much is this the case that the piece may be allowed to cool down in the muffle itself without fear of overdoing it, and this will effectually prevent cracking or crazing of the gum enamel.

The first case that I have the pleasure of showing you is a gum facing of twelve teeth which has to undergo the first firing.

It will be observed that the case is quite embedded in silex in a fire-clay pot ; this supports the case, prevents any alteration of shape, serves to protect the teeth from sudden changes of temperature, and thus reduces the risk of firing to a minimum.

I will now place the pot containing the case on the top of the furnace to heat up, at the same time embedding in the silex one or two pieces of pipe stem on which is plastered a small amount of mineral compound. The heat in the furnace being now satisfactory (this can be tested by means of the pipe stem with some compound on the end), I place the pot in the muffle and give it about eight minutes, at the end of which time one of the tests can be removed, and if the compound on it is found to be vitrified—that is, if it cannot be cut or scraped with a knife—it is a sign that the case is done; if the compound is still soft, give it a few minutes more heat and test again.

The next case is a gum facing of fourteen teeth which I will cover with gum enamel. The principal thing to observe in painting on the gum enamel is to get as even a layer as possible, about the thickness of a threepenny piece. I will now thoroughly warm the case up on the top of the furnace, and while so doing we can test the heat in the muffle with a piece of pipe stem, using a little enamel over the compound; this will give a good guide as to how long the case has to remain in the muffle—the usual time is from three to four minutes. I now insert the pot containing the case (taking care that no silex touches any part of the gum) into the muffle. The test is a piece of pipe stem resting across the pot with gum enamel painted on the centre. The case after three minutes is found to be done, so is withdrawn and placed in a small muffle to cool.

The next is a complete upper suction case for my own mouth; this has been fired once, but two or three small fissures were apparent in the compound, so a little more compound was pressed into them. The case is now embedded in crystal and fired again; and this being done the case is ready for the gum enamel.

After the meeting the members dined together, when £2 2s. 6d. was collected for the Benevolent Fund.

Western Counties Branch.

A COUNCIL Meeting of the above Branch was held at Ross-on-Wye, Herefordshire, on Saturday, May 1, at 3 p.m., Mr. T. TAYLOR GENGE, President, in the chair. Also present were Messrs. Apperly (Stroud), McAdam (Hereford), Brown (Barnstaple), Dudley (Bath), Goodman (Taunton), Helyar (Clifton), H. B. Mason (Exeter), Nicholls (Abergavenny), Robertson and Rogers (Cheltenham), Sanders (Barnstaple), Yates (Ross), and Goard (Exeter).

Letters regretting absence were received from Messrs. Browne-Mason, Gartrell, Hunt, Kendrick, Laws, and Thomson.

The minutes of the last meeting were read and confirmed.

The HON. SECRETARY read a letter from the Representative Board on the matter submitted by the Western Counties Branch to the notice of the Board in August last; also a letter from the Secretary of the Benevolent Fund.

The Council desired to express general agreement with the scheme proposed by the Committee of the Benevolent Fund.

The date of the annual meeting of the Branch was considered and was fixed for July 23; the arrangements for the same being left in the hands of the President-elect and Hon. Sec.

The following gentlemen will retire by rotation this year from the Council, viz., Messrs. Rogers, Goodman, Morris, Mountford, and Nicholls.

Mr. BROWNE-MASON asked for authority to pay outstanding accounts in connection with the last annual meeting. This was granted.

In the Hon. Treasurer's absence, the SECRETARY announced that since the meeting last year £7 had been raised in subscriptions, but the sum of £13 5s. was still owing.

It was decided to hold the next Council Meeting in Exeter on July 23.

Some cases of the infringement of the Act were referred to.

Messrs. H. D. Adkins (Kingsbridge, Devon), F. T. Haycroft (Exmouth), and G. E. Macdonald (Bath), were elected members of the Association and Branch. Mr. T. Dawson Goodman (Taunton) was elected a member of the Branch.

At the informal meeting of members the Councillors were joined by Messrs. J. C. Oliver and Baudry-Mills (Cardiff), Gill Williams (Newport), and J. P. Oliver (Penarth).

Mr. DUDLEY showed some curious specimens of old bone work.

Mr. SANDERS showed a molar with absorption cavities in two of the roots at some distance from the apices; there was a very small cavity in the crown. Also models of exceptionally small second upper molars.

Mr. GOODMAN showed a lower vulcanite case which he had weighted by working finely-divided gold into the rubber; and a case of supernumerary teeth in the incisor region.

Mr. OLIVER remarked upon the various decisions obtained in cases of prosecutions for infringement of the Dental Act throughout the country, and urged the importance of starting a movement for united action of all the Branches, for the purposes, first, of getting a judgment given, in a test case, by the Higher Courts, and secondly, of a strenuous endeavour to get the Act amended.

These important questions will be brought forward at the annual meeting.

Members willing to read papers, or give demonstrations, at the Annual Meeting are requested to communicate with the Hon. Secretary as soon as possible, in order to facilitate the arrangements.

Scottish Branch.

THE Annual Meeting of the Scottish Branch will be held at Dundee on Friday and Saturday, June 4 and 5 next. The meeting will be at 4.45 or 5 p.m. The Annual Dinner will be held in the Queen's Hotel, Dundee, at 7.30 p.m.

In addition to the usual formal business, a number of interesting communications will be given by members residing in the district.

The Local Committee are arranging for an excursion on the Saturday.

The usual circular giving full particulars will be issued to members in the course of a few days.

The Council suggest the following list of members to fill the offices vacated at this time :—*President:* C. Rees Price, L.D.S.Eng. (Glasgow.) *Vice-Presidents:* Wm. Fisher, L.D.S.Eng. (Dundee) ; Wm. Dall, L.D.S.Glas. (Glasgow) ; *Members of Council:* A. Naismith, L.D.S.Glas. (Glasgow) ; James Stewart, L.D.S.Glas. (Coatbridge) ; Thos. Wilson, L.D.S.Glas. (Glasgow) ; W. G. Campbell, M.B., C.M. Edin., L.D.S.Edin. (Dundee) ; W. B. Macleod, L.D.S.Edin. (Edinburgh). *Hon. Secretary:* D. B. Wilson, L.D.S.Edin. (Edinburgh).

J. GRAHAM MUNRO, } *Hon. Secs.*
C. REES PRICE, }

Original Communications.

Some Experiments with the Downie Furnace.

BY F. R. HOWARD, L.D.S.ENG.*

PORCELAIN as a material has such a number of uses in dentistry, that the wonder is there should be little used apart from the teeth one gets from the depôt. This is no doubt due to the fact that until recently any apparatus obtainable was open to many objections. Many of the furnaces were cumbersome, unwieldy, and unmanageable, added to which the work done by them was often very unsuccessful. On this account alone the uncertainty as to whether one's efforts would be crowned with success, or the time spent prove to have been wasted, was discouraging. Even in the event of success, too much time had to be given to the work to make it worth while in anything like a busy practice for even the mechanic to so occupy himself.

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* Read at a meeting of the Central Counties Branch.

The requirements in a porcelain furnace, I take it, are that the necessary heat should be quickly raised and easily maintained, and that the cooling should not occupy longer than is necessary for the safety of the porcelain. The muffle should be of some material not easily liable to crack and so cause gassing of the work. The porcelain body itself should not be of a fusing point too high to admit of soldered work being used as a scaffolding.

Until the introduction of the Downie furnace, I believe no apparatus we were able to obtain answered to these requirements, and though it is not perfect in all respects (for improvements have been made in a similar furnace by other makers), still it came at a time when it was very welcome. When it was first shown to me I saw how in a number of ways it might be useful, and after some experiments found it quite easy to handle, and compared with what I had seen before marvellously rapid both in heating up and cooling.

It is perhaps scarcely necessary for me to describe the furnace further than to say that it consists of an outer casing, cup and cover shaped, lined to about the thickness of half an inch with fire clay, the flue being vertical, the muffle which is of platinum being in the form of an oven placed across the flue in such a way that the mouth opens quite outside it. In action the jet of flame (gas and air) is projected into that part of the muffle about half way down. No cover is necessary, and one can watch the fusing of the porcelain through the open mouth. The porcelain body itself is low fusing, and possibly some objection may be taken to it on this account. Personally, I am not able to state whether there is good ground for this objection. According to the Detroit Manufacturing Company, the makers of the Downie furnace, their porcelain body is the strongest in the market, and if the published results of the tests conducted by them can be relied on, there would seem to be some reason for such a statement. Their test was as follows: a number of samples of porcelain of different makers was taken, and small buttons of each were fused under the same conditions in the same furnace. They were all subjected afterwards to pressure in a machine which indicated the breaking or rather crushing strain. The results as given are as follows:—That of C. Ash & Sons, which took eight minutes to fuse, had an average breaking strength of 254 lbs. That of Rose, which also took eight minutes in fusing, appears to be more dense, for it had a breaking strength of 320 lbs. Downie's, which fused in a minute and a half, comes out top with a breaking strength of nearly 400 lbs.

I give you this for what it is worth. I have made some rough tests with Ash's and Downie porcelain, and I find that the latter fuses in about a third the time of the former, while for small work each seemed to me to have about equal strength. In any case, so far as my experience goes, Downie porcelain in cases where it can be used is quite reliable.

There is one advantage to be claimed for a low fusing body, and that is, that no blistering of teeth occurs, and the colour and shade of them, which is fugitive in a high heat, is maintained. I have myself been able, by extreme heating in the furnace, to take the colour completely out of an Ash's tooth.

I may say the furnace is made in three sizes, though all my experiments were made in the smallest size, which is known as the Downie *crown* furnace, the principal use of which, as its name implies, is for the building up of crowns and small bridge work, though, as I shall show presently, it may be used for other things.

In the making of a Richmond crown, the use of porcelain body is, I think, a distinct improvement in some respects, and certainly it is more economical. Moreover it is by this method possible to cover over that portion of the metal collar which is often unsightly when, after a lapse of time, the gum recedes. The details of this method as described in the pamphlet issued by the Downie Company, and as I have proceeded myself, are as follows:—A Richmond collar and cap are made and fitted in the ordinary way, and the tooth (an ordinary flat backed one) having been selected, a post is prepared from square platinum or irido-platinum wire; this post is tapered towards one end and flattened at the other, so that it looks very much like a paddle; on either edge of the flatted end a notch is filed to accommodate the pins of the tooth.

The next step is to bend the post so as to lie flat against the back of the tooth when in position, and the tapered end in the root canal. The tooth pins are then bent over or rather round the post, and a little piece of hard wax is softened and pressed on to tooth and cap, the whole thing finally adjusted as to position and withdrawn from the mouth, to be reinserted at a subsequent visit of the patient.

To prepare the crown for the furnace, a mixture with water of equal parts of silex and plaster is made and built in the form of a cone inside the cap and round the post. When this is set the wax may be melted away, and we have left the scaffold upon which to build the porcelain.

I may here say that in all cases, whether it be a crown or gum block one wishes to make, a scaffolding or skeleton is required to support the porcelain, as when at high fusing point it tends to flow to the level in the same way as a fluid; that is to say, no work moulded and fired without metal support will keep its shape in the furnace.

The porcelain should be mixed with as little water as possible, and worked into position with small spatulas and camel hair brushes. Too wet mixing tends to great shrinkage, and I believe to greater porosity. At least two bakings are required, and often a third to touch up any defects.

You will see from what I have said that once the cap and collar are complete no further soldering takes place, according to the Downie method proper, but I have always soldered the cap to the post, as I think that the adhesion of the body to the smooth platinum is insufficient. This is not at all necessary at the point between the tooth pins and the post, for the porcelain covers all over this and knits quite firmly to the back of the tooth. All soldered joints are made with pure gold.

In mentioning some of the advantages of the Downie, Richmond and the ordinary Richmond, nothing was said about the comparative strength of each, and the comparison I have made on this point, together with means I have used to overcome weaknesses, may be of value here.

The most palpable weakness is of course the thin film of porcelain over the collar, which is likely to chip off when finally forcing the crown into position on the root. To obviate this I so fit the tooth that the lower edge projects well over the collar, giving as great a thickness as possible, and when finally fixing, press the crown home with an upward and forward pressure, so that spreading of the collar takes place at the back. Usually I have not covered more than the front of the collar. A little space left between the tooth and collar also gives, I think, greater strength to the body covering the collar. Then there is a question as to the density of the porcelain as a whole. Now I have had a case in which complete splintering of the whole mass took place, due, I fancy, to the fact that the patient what is called gritted his teeth. Weakness in this respect can be overcome by mixing the porcelain as dry as possible, heating up gradually and cooling off slowly. I believe that the accident I have described would only occur in rare cases. If any one would wish to make a test presently, I shall be happy to furnish the crown. Of course when an accident occurs repair is practically impossible, short of drilling out the post and starting again from the beginning, whereas in the ordinary Richmond, though it is very liable under pressure of incorrect biting to break off, it is usually possible to replace the porcelain face without removing the metal work from the mouth. Personally, if I have a case in which there is a very firm bite and a careless habit, I resort to the old form of Richmond crown.

It may seem to you, gentlemen, that from these comparisons I have made, that the old form of soldered crown would appear to be in some respects a better one. I can only reiterate what I said at first, that I am here to give my experiences with the Downie furnace and not to advertise the firm who makes them.

Mention has been made of the porosity of the porcelain. Now I have tried many times to fuse a mass which would be dense, or rather homogeneous enough to bear grinding and polishing, and in this respect I have compared it with Ash's body. But with neither have I succeeded, as you will see from the specimens I have here. It follows, then, that all work must be finished in the furnace. It is sometimes possible to cut, as one might say, skin deep, and if it is then found to be non-porous it will take a polish.

Although twenty-four shades of the Downie body are supplied, there is not enough variety of colour, there being, I should say, only about four or five colours with more or less intensity in tint. With regard to that supplied by Ash & Sons I cannot speak, as I have only a few samples.

Now there are, as I have said, a number of uses to which the Downie furnace may be put, and I have here some specimens which will show you what can be done with it.

It will no doubt be understood that all my work in this respect has not been only experimental in character, a very fair amount being in actual use, and while I have put the apparatus to many uses, in only few cases have I so far had unsuccessful results, and in these inexperience had much to do with the cause.

Mr. Howard showed a number of specimens :—

(1) Fixing an extra pin in a tooth by means of the Downie body ; (2) Long tooth apparently shortened by baking some gum-coloured body round it ; (3) A gum-block made with Ash's body ; (4) Tooth elongated by means of added porcelain ; (5) Porcelain inlays ; (6) Various crowns—Richmond and Logan varieties ; (7) A special crown made to fit a root previously made convex by special instrument of the root-facer variety, and in which the platinum cap is fitted by an instrument with a concave end which is rotated by the hand ; (8) A removable piece of bridge work.

"The Rationale of Non-Cohesive Fillings."*

By FREDERICK ROSE, L.D.S.

It is rather the fashion at present, particularly across the Atlantic, to condemn the use of non-cohesive gold foil for stopping teeth ; and some of the assertions one reads in American journals and books are so dogmatic in their tone, that they are calculated to mislead young and inexperienced men, and cause them to neglect to practise during their hospital life, a phase of our calling which many practitioners have utilised much to their own advantage, and the satisfaction of their patients.

Of course, if men, who have never practised this art, start on it for the first time, and take the results of their own 'prentice hands as a criterion of the acme of excellence that can be attained by the use of the material, naturally they will find it inferior to the cohesive method, which they have practised till they have attained proficiency therein.

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* Read at a meeting of the Midland Branch, held February 20, 1897.

Though I cannot hope to present to your notice much that is original, I do hope to be able to throw a little light on the path of the inexperienced in this art by the paper and demonstration it will be my honour to bring before you; for having worked with non-cohesive gold regularly since 1879, when I first commenced my hospital career, I think you will admit I am not conceited when I venture to think I am competent to teach it.

With this material, as with all others that we use for the conservation of the teeth, we must choose our cavities; for to insert non-cohesive foil in an ill-chosen cavity is just courting failure. Now the question is, what are the cavities suitable for this method of filling?

My reply is, "any cavity where there is depth enough and the walls are sufficiently perfect to afford strength to pack against, and there is not much contour required."

We must aim at getting our cavity as nearly cylindrical as possible. There must never on any consideration be undercuts. If we try and fill a cavity larger at the bottom than at the orifice, we get the orifice closed and the gold within it condensed, before the more deeply seated portions are full of the material. A filling like this soon gets punched down into the cavity, and the various laminæ of gold being driven into a larger space than they completely fill, soon separate, and the whole filling washes out piecemeal.

Of course it will be understood that every piece of gold must present its *end* to the outside; they must on no account be laid flat on the floor or rammed in higgledy-piggledy, as I have heard of being done. Each piece must be placed accurately in its definite position, and arranged systematically, concentrically round the cavity "like cigars in a wineglass," in the case of cylinders and pellets; and the same principle applies if a continuous riband or rope folded be used. Personally, I prefer to use lengths cut from the rope gauged to the width and depth of the cavity to be filled, using smaller and smaller pieces manipulated with finer instruments the nearer I get the cavity filled. Each piece ought to be a little more than double the depth of the cavity so as to allow a knee to protrude above the top when the piece is folded over.

I prefer to work from the circumference to the centre; but many able exponents of the art work across from one side to the other. I think by the latter method there is more liability to have a fine pit against the enamel that is not quite filled up.

If I am using tin foil in combination, with gold, either folded with it or separate, I like to fold it into ribands; because tin is not so tough as gold, and, therefore, does not lend itself so readily to the use of rope, and further, if the two metals are folded together, the gold being outside, it is a means of distinguishing the bits of mixed metals from pure gold pellets.

Now the next question that naturally presents itself is, "what are the cavities to choose for filling with non-cohesive foil?" And I may best answer the question by saying what cavities I would not fill by this method. The choice of material best suited for the work on these cavities thus eliminated from our consideration, must rest with the dentist, and be decided according to his own measure of skill and the depth of his patient's pocket. Thus many of these cavities that I should on no account fill with non-cohesive foil, would be best filled and contoured with cohesive gold; but the patient might not be in a position to pay for gold stopping at all; or the cavities might lend themselves to inlay work. Of course there are numbers of cavities amongst those that I would fill with non-cohesive gold, that are equally applicable for filling with other materials, and I frequently do fill with tin and gold, or cohesive gold, or a combination of cohesive and non-cohesive, or with plastics; for I think it a pity for any man to bind himself slavishly to any one method.

The claims of superiority I would set up on behalf of non-cohesive work are, 1st, the saving of time; 2nd, better adaptation to the walls of the cavity if properly packed, as there are no risks of porosities between the tooth substance and the filling such as is sometimes got with cohesive foil if the work is hastily done; thus it is often a good thing to make a casing of soft foil, filled up with cohesive gold; 3rd, it is not imperative—though advisable—to use the dam, which with some patients is a great desideratum; and 4th, malleting can be avoided.

Starting with the front teeth. Cervical cavities are not suited for this class of work, because they are generally shallow, and we should have to cut away too much healthy tissue to get a firm hold for the gold.

Approximal cavities with very weak enamel in front, or much broken away in front; and, referring particularly to the lower incisors, none but very small cavities would I fill by this method. In fact, broadly speaking, where gold is desired to be used at all in the lower incisors, it is always better to use it cohesively; being such thin teeth they afford no depth for attachment. Upper incisors and canines lend themselves to very beautiful and efficient non-cohesive work; interstitially, if the enamel in front is intact, and fairly strong; and I have selected this method for my demonstration to-day. By it, *i.e.*, filling from behind, we are able to get a stopping that does not show in front, and which is only condensed the more the harder it is bitten upon. In these cases tin can be used in combination with great advantage, for the two materials combined form a harder plug than either alone.

Approximal cavities in bicuspids and molars, if they extend over the masticating surface, are not suitable for this method, though I have seen good results even here if the cavity lends itself to deep excavating; for a slight contour can easily be made on a non-cohesive stopping. Crucial cavities in molars are not good for non-cohesive work; though ordinary crown cavities are very suitable, either in combination with tin or as a casing for cohesive work. For example, a very large crown cavity may be filled nearly to the top with tin and non-cohesive foil and condensed, leaving a margin next the enamel extending all round above the top of the cavity; then two or three retaining points being made in the filling, a cap of cohesive gold is built upon it. This makes a beautiful and durable plug, and can be accomplished very rapidly.

"Dead Teeth" and their Treatment.*

By J. F. RYMER, M.R.C.S., L.D.S.Eng.

"Dead Teeth"—a curious term for scientists to use, but what does the word "dead" mean? If we refer to our dictionaries, we see it defined among other things, "useless," "unprofitable," "not active," so the dictionaries will not help the dentist. Before speaking of the teeth, let us reflect a moment, and think of the "eye," for example, an eye that cannot see, "a blind eye" or a "dead eye," or by whatever term you like to call it; the eye may be dead to objects, from so many causes, but I do not intend taking up your time now in enumerating them. The "eye" I am now picturing, is truly dead so far as vision is concerned, but quite alive to all appearances as regards ordinary nourishment. You are saying to yourselves, and at first sight justly so, whatever has the eye to do with the tooth? Nothing, I reply, quite the reverse; a "dead eye," one that cannot see, is absolutely useless, but a "dead tooth" is a most useful organ, often better than a live one. Now, proceeding a step further, I will ask you two questions: What is a dead tooth? and, When is a tooth dead?

Before answering yourselves, I will venture to give a few remarks of my own upon the subject. "Dead teeth"—what are they, and when are they dead? I noticed in a review of a recently published book on "Dental Materia Medica" that great objection was taken by the critic to the author using the above term. I beg to differ from this critic; I think the term "dead tooth" a very good one, but a very "broad one." Let us reflect a moment, and note the causes of dead teeth. I will place them under two main headings, viz., (*a*) real dead teeth, (*b*) pseudo-dead teeth; (*a*) real dead teeth, by this I mean those that have no connection with the living structures; they are really foreign bodies, just the same as a piece of dead bone in a live bone, and must be cast off as worthless. True dead teeth are due to many causes, which are so familiar to you all that it would fulfil no good object if I now elaborate upon them. I will take two main classes—(1) due to traumatic causes, (2) constitutional causes.

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* The opening of a discussion at a meeting of the Southern Counties Branch, Southampton, January 23, 1897.

(1) Sometimes a severe blow, at cricket, football, or the like, sets up such severe inflammation that the tooth is in every sense dead, both pulp and pericementum ; the tooth is loosened, never to tighten, and if not extracted, works out, as it is useless.

(2) Constitutional causes, a few examples being old age, gout, chronic dyspepsia, and several fevers, poisons, &c.

I have omitted one class of "true dead teeth," viz., those that have no work to do—"degeneration." This class reminds me so forcibly of a chapter I read a long time back in a work by the late Henry Drummond, "Natural Law applied to the Spiritual World," that, with your permission, in a few words, I will endeavour to reiterate from his chapter on "Degeneration." There is a certain organism (I forget the name) which when born, possesses eyes, mouth, body, legs, &c. ; this creature grows weary of living, so what does it do ? it fixes itself upon a certain crab, again I forget the name, but this does not signify ; anyhow when on this soft crab, its eyes, mouth, legs and all its useful organs drop off, and in their place suckers come out from the rest of the body, which infiltrate the whole body of the crab (like the roots of a plant in the ground), and so it lives, but it is not alive in another sense. Pardon me for wandering, I am only trying to show you, that when healthy live teeth have no opponents to fight, then they degenerate (because they cannot help themselves in these cases) as the organism just quoted above, kills itself and that it lives upon ; the tooth works out having no work to do, and kills itself through degeneration.

So much for real dead teeth ; a few words on what most of us call "dead teeth," or which I prefer to term "pseudo-dead teeth." Are dead teeth dead ? No ! I answer, because if really dead they would be cast off in the same manner in which I have tried to explain above ; because the pulp is disintegrated, it by no means follows that the pericementum is not as healthy as in a true healthy live tooth. I go further, and say that because nourishment is cut off from the apical vessels, it is only reasonable to suppose that the pericemental vessels enlarge, and send extra nutriment to the cementum, so as to retain the tooth firmly, in the same way as tying a main vessel in a limb, other smaller arteries enlarge, and so take the place of the one which is no more. I know many here are good pathologists, I leave them to give us their theories, as already I have said enough; but my own opinion is, that the teeth are only dead so far as the pulp is concerned, hence a dead tooth is often better than a live one.

Having now touched briefly upon some points connected with "dead teeth," it only remains for me to say a few words as to the methods I adopt in the treatment; I have a fair average of successes, but I am not without failures.

Treatment must come under two headings:—

First, "Pseudo-dead teeth," viz., when the pulp has been devitalised by some immediate process.

Second, "Chronic dead teeth."

In the treatment of the first, I cannot speak too highly of the method which was adopted in six teeth of my own over five years ago, all having proved satisfactory; I have since often performed the same operation with good results. When the pulp is removed by some immediate process, which you prefer best, cleanse the canal with carbolic or the like, syringe with absolute alcohol, then heat an instrument, suitably shaped, nearly to red heat, and apply up the canal several times, until you see the dentine almost white; now inject a small quantity of chloroform, and place up the canal a small thread of gutta percha, and work this up with a probe-pointed instrument until a sharpish pain is felt at the "apex" of the root; this shows that the apical canal is blocked up, and the remaining part of the root can be filled with any material you please. In the above operation it is essential that a straight opening should be drilled through the crown of the tooth. As a rule, the above method is mainly adopted to the six front teeth, more for the purpose of crowning.

Secondly, Chronic dead teeth. The treatment which I have frequently practised (when there is no abscess, or fistula), is as follows: after several dressings, in order to obtain a healthy condition, dry the pulp cavity, send up the canal as far as possible some powdered permanganate of potash, and seal up with temporary gutta-percha, leave this for a time, and if no complications follow, then remove most of the gutta-percha, and fill the tooth with any material which is the most suitable, as to the shape of the cavity, &c.

Chronic dead teeth, with abscess, and often fistula, I find the most difficult class of cases we meet with in dentistry, so if some present will speak fully about them, I shall feel obliged. I have tried syringing the fistula with weak solution of iodine, so as to set up irritation, in order to get the sinus to heal up, at the same time treating and filling the pulp chamber, and for a time, sometimes months, or even more, all goes well; but alas, the day comes with the patient rushing in, with symptoms of acute abscess, &c. I am quoting in a general way, but sometimes I do have real success. As a last resource, except extraction, I adopt "rhizodontrophy" in certain cases, and for years the teeth have been and are useful organs, and the discomfort arising from the slight amount of gas emitted from the tiny opening, is nothing compared to the decomposition of food which goes on constantly between the teeth in many mouths.

A New Bridge Furnace for Firing Partial Continuous Gum Pieces, Blocks, Crowns, &c.*

BY B. J. H. GARTRELL.

THIS furnace is illustrated in Fig. 1. The furnace opens on a hinge enabling the muffle to be readily removed. It is made of thick sheet metal, an alloy of nickel and manganese, and is as suitable for muffles as platina, and reduces the cost of the furnace by one-half. The muffle is 1¾ inches wide by 4 inches long, large enough to fire a good sized piece of work. Another important feature is the convertible tap to burner, by which the work is dried and heated by a Bunsen flame and changed instantly to a blast to complete the baking. The preliminary heat by the Bunsen flame is more gradual and even than by blowing, and saves time and attention. This is especially the case in a larger size of this furnace having a muffle 3 inches wide by 5½ inches long, for full sets in continuous gum which take from fifteen to twenty minutes to fire, and is very tiresome where the bellows has to be worked all the time as in the ordinary gas or gasoline furnaces. With a burner as above described, the work is heated to redness without any attention, and to reach a little higher heat the bellows require working only about one minute for the small

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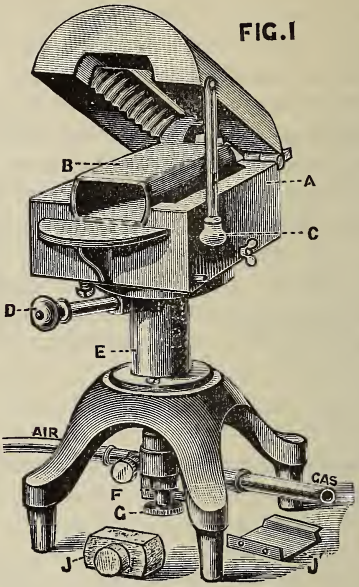
* Read at a meeting of the Southern Counties Branch, held on April 10 at Brighton.



furnace and two minutes for the larger. Ordinary gas is used or the Fletcher gasoline apparatus may be adapted where gas

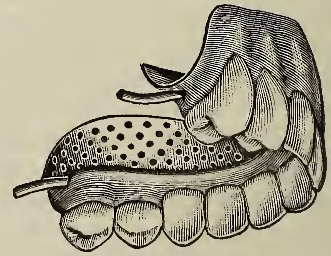


Fig. 2.

is not attainable, but gasoline requires great care in handling, as it will explode if exposed within three feet of a naked light. Fig. 2 is an illustration of a continuous gum block fired during the meeting for setting in vulcanite. The plate is made of perforated platina, swaged to fit the model, ordinary pin teeth are mounted and soldered to the wire. The continuous gum body and enamel are now applied and fired, the block is replaced on the model and the usual process adopted for making a vulcanite plate. The combination is effected by the vulcanite filling the holes in the platina and embedding the ends of the wire seen projecting at the two ends of the block. The platina partially covering the palate forms a girder which prevents the two ends of the block being drawn together by the contraction of the vulcanite when cooling, and cracking the porcelain.

A New Angle Mallet.

By W. R. HUMBY, L.D.S.Eng.

My conception of an ideal instrument is one which, while it conforms as nearly as practicable to the form of our hand instruments in size and outward appearance, should be capable of striking an efficient blow in the required direction. The blow should be crisp and extremely rapid (it need not be very heavy), and the instrument should not be restless in the hand, as a strong grip would then be absolutely imperative in order to prevent the pounding of the edge of the cavity.

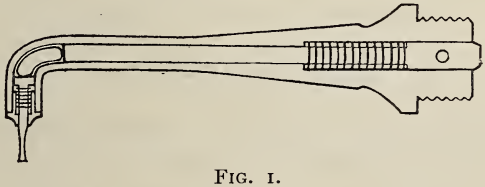


Fig. 1.

At one of the annual exhibitions in connection with the British Dental Association, Messrs. Ash & Son showed an angle mallet, the power of a straight blow being used, and by means of inclined planes the blow was diverted to a right angle.

Mr. Moore invented the plan of using cycle balls to convey, through a pipe, the power to the plugger. Thus a reciprocating motion was used in making the blow, the latter being diverted to the necessary angle by the two devices I have mentioned. Still, to my mind neither the one nor the other conformed to what I thought was convenient in use, the size of each being in excess.

As the matter seemed to hinge on the manner in which the impulse was conveyed round the turn, and the blow with its quality was already at hand in the straight power mallet, I have, as you will see, reduced the size by making use of the segment of a circle of steel to make the turn, the segment sliding in a corresponding groove. The size of the instrument is thus considerably reduced, while the quality of the blow is not impaired.

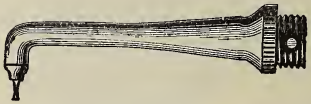


FIG. 2.

Having used this instrument for some months, I can state from practical experience that it makes solid plugs, and, from its small size, has a greater range of positions during use than the larger instruments. It comes near to the size and shape of the hand plugger, and I have not required to oil it since I first used it. Fig. 1 is a diagram showing the working of the mallet, while fig. 2 illustrates the actual size of the instrument.

Legal Intelligence.

Action by a Dentist to Recover Fees.

BLANDY *v.* OAKDEN.

THE plaintiff in this case was Henry Blandy, a dentist, of Postern Street, Nottingham, who sued Ralph Oakden, manager at the Nottingham and Notts Branch Bank at Newark, for £17 5s. 6d. for professional services rendered to his son. Mr. A. Barlow appeared for defendant. Plaintiff said Mr. Oakden, jun., came to consult him about his teeth. Mr. Oakden's family had been patients of his for many years, and they knew his charges. This young man, he believed, was a lieutenant in the Robin Hoods. He attended him from November 28, 1895, to February 13, 1896, and at the close of the attendance he asked him if he were satisfied, and he said "Yes ; you know where I live. Send the bill to my father." He then sent the bill to the father. He afterwards received a letter from Mr. Fraser, the Mayor of Nottingham, saying Mr. Oakden had consulted him, and he was instructed to inform him that his client repudiated any liability. Defendant stated that his son was employed in a surveyor's office in Nottingham, and he supplied him with sufficient money to live upon, but he never instructed him to go to Mr. Blandy. He protested against either Mr. Blandy or his son involving him in £17 without having a say in the matter. His son did mention to him that he had been to see the plaintiff, and that it might cost £2 or £3 for the professional services rendered. His Honour said the defendant evidently knew something of the action of his son, and he should have made enquiries. The charges seemed to be fair and reasonable, and there would be judgment for the plaintiff for the amount claimed. —*The Nottingham Daily Express.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of the Society was held at the Society's Rooms, on Monday, May 3, the President, Mr. R. H. WOODHOUSE, occupying the chair.

The minutes of the last meeting having been read and confirmed, the following gentlemen signed the obligation book and were admitted members of the Society : Mr. J. Lewin Payne, Mr. J. G. Wallis, Mr. J. J. Parfitt, and Mr. Henry Wood.

Messrs. W. R. Humby and G. W. Bateman were appointed auditors of the accounts.

Owing to the breakdown of the electric light a paper set down by Mr. Tomes was unable to be read, and the evening was therefore devoted to the discussion of casual communications, the first of which was brought forward by Mr. CLAYTON WOODHOUSE, who exhibited, on behalf of Mr. Peyton Leveson, models taken from the mouth of a girl of 14, showing on the right side an unusual condition of retarded eruption of the first permanent molars and second biscupids, somewhat similar to the impacted condition often met with in the temporary teeth. With regard to treatment, Mr. Clayton Woodhouse thought the best thing would be to keep the mouth under observation for a year and then extract the first permanent molars.

Mr. J. H. BADCOCK considered that traction might have the effect of making the teeth erupt to their full distance.

Mr. J. F. COLYER exhibited some interesting models, forwarded to him by Mr. H. G. Read, of open bite and inferior protrusion. One was a case of marked protrusion of the mandible with defective development of the maxilla associated with open bite. The superior central incisors were very badly developed, and Mr. Read had cut them off and covered the remaining teeth with a plate, and had thus given the patient a respectable masticating apparatus. The next case was one of non-occlusion in the region of the bicuspids and molars. The second biscupid and the second molar were standing, and Mr. Read had capped these two teeth and bridged between them, and so had provided the patient with a fair masticating surface. In the third case he had also given a good masticating surface by simply crowning the upper and lower teeth.

Mr. Colyer also mentioned a case of what he termed pain resulting from galvanic action. About two years ago he filled a left second mandibular molar for a lady with an amalgam filling. Occluding with this tooth there was a gold crown. About two days later the lady returned complaining of distinct pain every time she ate anything, and she asserted that the pain was due to electric action. Mr. Colyer cut out the whole of the surface of the amalgam filling where the gold crown occluded with it, and filled it up with a non-conducting filling, and from that time the pain disappeared. He also mentioned a similar case in which the patient was wearing a biting block which occluded with an amalgam filling. The tooth was not painful to heat or cold, but every time the gold biting block was brought into contact with the amalgam filling the patient felt pain.

Mr. HUMBY said he had had several similar experiences, and in one case it was the result of a pin on an upper gold plate striking an amalgam filling in the lower jaw. On the pin being shortened the pain disappeared.

Mr. J. J. PARFITT considered that if there were a current there must be some waste of the amalgam filling to drive that current, and that had set him thinking whether the waste of some amalgam fillings might not be due to that cause.

Mr. BALDWIN suggested that the case shown by Mr. Leveson's models might be treated in three ways. In the first place the teeth which did not occlude might be crowned; in the second place, biting blocks made of gold and filled with vulcanite and moulded on the tops of the teeth might be made to fit, in the same way that a regulation plate fitted on the tops of the back teeth when the bite was capped; and the third treatment, if it might be called so, would be to let it alone. With regard to Mr. Colyer's case of pain due to galvanic action, he mentioned a case in which he undertook to build up the bite all round, which he did partly by building up the teeth with cohesive gold and partly by filling up with amalgam, but when he tried it the patient got a severe electric shock. To relieve this he had to cut away the tops of the amalgam which came into occlusion with the gold, and put a shell of cohesive gold on the top of the amalgam. Pain only arose when contact was made or broken between the two metals.

Mr. F. J. BENNETT said there was one condition which must always occur in order to produce an electric current, and that was an acidulated solution, and he fancied it must be that the shock was felt when there happened to be any acid saliva between the two metals. It was, however, not at all a condition which would occur in every patient. He did not agree with Mr. Baldwin as to the pain occurring only on making and breaking contact, because a current due to metals in acid solution as a rule was a continuous and not an interrupted current.

Mr. HERN corroborated Mr. Baldwin's view ; and

Messrs. WALLIS, SCHELLING, SPOKES and BATES also took part in the discussion.

Mr. BALDWIN read the details of an interesting case of retarded eruption of a third molar producing symptoms simulating epithelioma.*

The PRESIDENT having thanked the members who had brought forward communications and taken part in the discussions, the Society adjourned to June 14.

Hospital Reports and Cases in Practice.

The Presence of an Unerupted Lateral Incisor determined by the "X" Rays.

By J. G. TURNER, F.R.C.S., L.R.C.P., L.D.S.

THE accompanying skiagraph was taken to ascertain the presence or absence of an unerupted left upper lateral in a child aged 10½. There was a history that about twelve months previous to the patient's visit to me, "gas" had been administered and a tooth taken out from that region. The skiagraph shows this must have been the temporary lateral, and also helps to explain the tardy eruption of the permanent tooth, which is seen close under the gum (a faint line about $\frac{1}{16}$ in. wide can be seen in the original, indicating the gum), but interfered with in its progress by the temporary canine. This was extracted, and showed along its side a linear track of absorption where the permanent lateral had pressed on it.

The skiagraph was taken with the help of Mr. Lees

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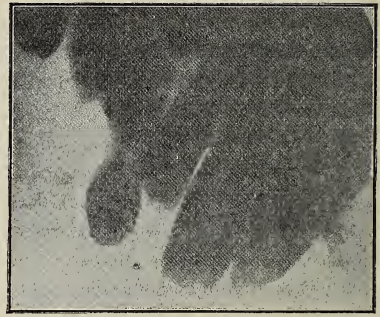
* To be published in full in a future issue.

Curties (of Charles Baker, High Holborn) in the following manner: a piece of film about 1½ in. square was put into a bag of rubber-dam and held well up into the palate with the fore-finger. The exposure lasted 6½ minutes. Four weeks subsequent to the extraction of the temporary canine the permanent lateral appeared through the gum.



Abstracts and Translations.

The Discolouration of Copper Amalgam.

By KENNETH W. GOADBY.

SOME time since, in anticipation of the paper just read [" Copper Amalgam: its Merits and Demerits "] Mr. Badcock enlisted my help to determine, if possible, something definite as regards the discolouration copper amalgam undergoes in the mouth. Unfortunately, the time at my disposal has been limited, so that the following results are rather fragmentary and incomplete. The points I have endeavoured to solve are the chemical nature of the black and green discolouration, with the effect the latter conditions may have upon micro-organisms.

The literature of copper amalgam is most extensive and not a little contradictory, whilst no direct experiments seem to have been made with the well-known green-staining, although several observers have hazarded a guess. Other observers have made experiments as to its antiseptic properties, notably Miller, who placed pellets of copper amalgam upon plate cultures, and found that the growth of colonies in their vicinity was inhibited, but at the same time unannealed soft gold had a similar effect. Now even if we allow that the copper does produce an antiseptic effect, it must be by the change of the metallic copper to some copper salt, but we cannot ascribe a like process to the gold cylinders. Under these circumstances it was thought desirable to confirm Miller's results. Plates of agar and gelatin were poured and small pellets of amalgam dropped on. In all the gelatin plates, five in number, a development of bacteria took place right up to the filling material, which after a few days commenced to turn green. In three gelatin slant tubes a like effect was produced, the amalgam having no antiseptic action whatever. With the agar plates the series of events was even more interesting. Plates prepared in the above way after two or three days showed a distinct growth, the colonies sometimes stretching up to the mass of amalgam, and at other times some little distance away, making a well-marked zone; so far Miller is right. But the amalgam in all cases turned green and showed a ring of growth in its immediate vicinity; control tubes inoculated from this green zone developed rapidly upon agar, broth or gelatin, whilst on agar and gelatin plates not inoculated with cultivations, no change whatever occurred in the amalgam, so I am able to point to conclusive evidence that the antiseptic effect of copper amalgam is an insignificant quantity. The explanation of the zone formed round the amalgam in which few or no colonies are to be seen is not difficult to explain when we consider the conditions. The medium agar is a damp one, and when a mass of material is placed upon its surface, the force of capillarity comes into play, a meniscus is formed and the bacteria washed into it by the currents set up. Upon gelatin, which is a drier medium, this does not take place. The explanation appears to me to be perfectly in accordance with the facts, especially as colonies do eventually develop in the zone if inoculated when the agar has dried, whilst at times colonies may be seen below the surface also. Clearly, then, we cannot say that the amalgam exercises any antiseptic effect upon plate cultures, but is its action upon fluid media of an antiseptic nature? The following experiments were made to determine this point:—

A series of tubes of broth, saliva and gelatin were inoculated with cultures—(1) from the mouth direct; (2) with streptococci (brevis); (3) impure cultures from the mouth. In all cases a development of bacteria took place. Thus one to three pellets per 10 cc. did not prevent the growth in any case, the gelatin tubes developing similarly in the broth and saliva under the same conditions; the controls grew perhaps a little more rapidly, but the difference was so small that we cannot attribute even very slight antiseptic effect to the amalgam under discussion.

Miller's experiments with copper sulphate are conclusive as far as they go, but as will be subsequently seen, experiment renders the presence of a sulphate improbable, consequently the antiseptic reactions of copper sulphate do not form an altogether satisfactory argument in dealing with amalgams containing copper.

The discolouration of Sullivan and allied fillings is too well known to require any explanatory remarks, whilst the division of the colouration into "black" and "green" varieties is a matter of clinical experience which requires no further comment, we may therefore at once discuss the production of the former. Several tubes of saliva were taken and small pellets of amalgam dropped in; a solution of sulphuretted hydrogen was next added, and the tubes placed in a chamber at the body temperature. Within a short space of time the familiar sooty appearance was to be seen, whilst in those tubes in which the solution was weakest a chocolate brown colour occurred exactly resembling a condition often noticed in the mouth. Upon gently rubbing the black deposit a shiny surface was exposed, due no doubt to the mercury set free. On again placing the mass in the solution, the surface became once more coated with the black sooty layer, placing beyond a doubt the question of sulphide. This is of course what was to be expected, the experiments simply giving direct evidence of a self-evident fact. In the control tubes the material remained quite bright, whilst in several cases tubes inoculated with an extremely fœtid culture of mouth bacilli the amalgam turned black, the culture having the extremely unpleasant smell of a dirty mouth. In tubes inoculated with pure cultures of the mouth streptococcus, this result was not forthcoming. Decomposition of food is a fruitful source of sulphuretted hydrogen, so that the series of events in the buccal cavity is evident, and although the percentage of sulphuretted hydrogen present at any given time would necessarily be small, the process would not thereby be suspended but only prolonged, the movements of the tongue and the rub of opposing teeth during mastication accelerating the process by exposing fresh surfaces to the denuding action; in fine, the condition may almost be compared to the gradual wearing away of rocks by the combined action of carbolic acid and rain.

I have made careful examination of the sooty deposit obtained in this way, and although copper sulphide is always present no reaction characteristic of mercury was to be obtained; it is not improbable that the mercury re-combines with the more electro-negative metal copper, eventually producing the curious pasty condition sometimes met with. This hypothesis I cannot confirm by experiment, however, as in all cases a shiny condition was the only result. *But* the process just described is not the only method by which an amalgam may be disintegrated, the mouth organisms themselves produce chemical changes in the amalgam by which it is softened, eroded and destroyed. To this we will recur later.

The second species of stain, often quite a dark green, was also investigated. The pigmentation has popularly been ascribed to copper sulphate, why is not quite clear, as many other copper salts are green, and at the same time the origin of a sulphate is, to say the least, obscure. On the other hand more cautious observers have darkly hinted copper salts, thus leaving the field quite open.

Copper carbonate—that salt causing the green colouration of any article exposed for long to the air, would have been a far better theory, and it is most probable that this salt at times does occur, especially as the saliva normally contains 60 cc. of carbonic acid per 100 cc. (Waller). However, I have attempted the determination of this salt by tests carried out in the following way. Teeth showing a well-marked condition of green stain were selected, ground up, and treated—

(1) By prolonged boiling with sodium carbonate.
(2) Prolonged soaking in cold water.
(3) Dissolving in dilute acids.
(4) Dry re-actions.

In the acid solutions the gelatin peptones formed so masked the other precipitates that this method was abandoned. Moreover, the small quantities of material at my disposal very much hampered the experiments.

The reactions of the filtrate from 2—1 were the same, and gave the following results :—

(1) With barium nitrate a faint white precipitate, soluble in nitric acid.

(2) Silver nitrate gave a fairly well marked precipitate soluble in ammonia.

(3) Ammonium molybdate gave a slight colouration.

(4) Ferric chloride gave a blood red colouration soluble in hydrochloric acid.

(5) Heated with alcohol and sulphuric acid acetic ether was given off.

Dry reactions—

(1) Original tooth fused with sod. carb. on charcoal, and moistened with sulphuric acid on a bright silver surface, gave no black stain.

(2) Original tooth heated in tube with sod. carb. and arsenic trioxide gave vapours of cacodyle.

There seems, therefore, no reason for supposing the salt to be copper sulphate, whilst the acetate reactions were well marked.

The next step was to produce the green colouration by artificial means.

Saliva tubes were taken and copper amalgam added, the tubes then being inoculated with cultures taken from the mouth, and a trace of lactose or dextrin added. In almost all cases, after forty-eight hours, a greenish tint made its appearance and gradually deepened till at the end of three weeks the colouration was most marked, the solution being acid.

These cultures gave the same reactions as the filtrates above mentioned, lactic acid being, curiously enough, not present as far as the ferric carbolate test is reliable. After a period of a month or six weeks little of the amalgam was left, a somewhat significant fact.

I have not at present sufficient material to determine the exact nature of the acetate formed under the above conditions, but from many considerations it is extremely probable that it is of an amidic nature, especially as glycocollate of copper is a well-known salt, crystallising in blue needles and obtained by dissolving copper in a solution of glycocoll or amido-acetic acid—and once or twice I have seen needle-shaped crystals from the blue mass formed at the bottom of my cultures. I do not, however, wish to advance this as more than collateral evidence to a suggestion, as it is probable that other compounds are also formed, *e.g.*, peptonate or albumate of copper, but I do state, most emphatically, that *a priori* remarks of the formation of copper sulphate are misleading and unscientific, and further, that its supposed antiseptic action depends, and must depend, upon the disintegration of a portion of the filling, a condition at once unsatisfactory and undesirable.

(A) Saliva and Sullivan inoculated with culture from mouth (mixed).	(1) Good growth after 24 hours. Green colouration after 72 hours.
	(2) Good growth after 24 hours. Green colouration after 72 hours.
	(3) Good growth after 24 hours. Green colouration after 72 hours.
	(4) Good growth after 24 hours. No colour after 3 weeks.
	(5) Good growth after 24 hours. Blackened after 3 weeks.
	(6) Good growth after 24 hours. Blackened after 3 weeks.
(B) Broth and Sullivan inoculated with mouth culture (mixed)	(1) Good growth 48 hours. Amalgam blackened. Fœtid.
	(2) Good growth 48 hours. Amalgam blackened. Fœtid.
	(3) Good growth 48 hours. Amalgam blackened. Fœtid.
	(4) Good growth 48 hours. Slight colouration 2 weeks.
	(5) Good growth 48 hours. Blackened.
	(6) Good growth 48 hours. Blackened.
(C) Gelatin (hot incubator). From saliva mouth culture (impure).	(1) Good growth 48 hours. No colouration.
	(2) Good growth 48 hours.
	(3) Good growth 48 hours.
	(4) Good growth 48 hours. Green colouration 3 weeks.

(D) Saliva and lactose and Sullivan inoculated from broth mouth culture (mixed).	(1) Good growth 48 hours. Green colouration at 3rd day. (2) Good growth 48 hours. Green colouration at 3rd day. (3) Good growth 48 hours. Green colouration at 3rd day. (4) Good growth 48 hours. Green colouration at 3rd day. (5) Good growth 48 hours. Green colouration at 3rd day. (6) Good growth 48 hours. Green colouration at 3rd day.
(E) Saliva and dextrin and Sullivan inoculated from mouth culture saliva (mixed).	(1) Good growth 48 hours. No colouration. (2) Good growth 48 hours. No colouration. (3) Good growth 48 hours. Green colouration 3 days.

A 1 and 2, B 4, C 4, D 1 2 3 4 5 6, E 3 gave acetate reaction. N lactate.

(F) Gelatin plate inoculated with mouth culture (impure).	(1) Green tinge to Sullivan colonies developed close up. (2) Green tinge to Sullivan colonies developed close up.
Gelatin plate inoculated with streptococcus brevis (pure).	(1) Green tinge. No zone. (2) Green tinge. No zone. (3) Green tinge. No zone.
(G) Agar plate inoculated with mouth culture (impure).	(1) Green colour well marked. Slight zone. (2) Green colour well marked. Zone. (3) Green colour well marked. Zone. (4) Green colour well marked. Colonies in zone under surface.
(H) Agar plate inoculated with pure culture streptococcus brevis.	(1) Green colour well marked. Zone. (2) Green colour well marked. Zone. (3) Green colour well marked. Zone. (4) Green colour well marked. Zone.

Broth tubes inoculated from green colouration of above plates developed a good growth in 24 hours.—*Transactions of the Odontological Society.*

A Case of Hypertrophy of the Gums.*

By CHRISTOPHER HEATH, F.R.C.S.

HOLME PROFESSOR OF CLINICAL SURGERY.

I HAVE had recently in my wards a remarkable and somewhat uncommon case of hypertrophy of the gums, on which I propose to make a few remarks. The patient was a young man of 26, whose appearance is shown in the photograph kindly taken by Mr. Clover. The hypertrophy of the upper lip and the fulness of the cheeks were the most prominent features when the mouth was closed, but upon opening it the remarkable condition of the gums shown in fig. 1 was at once visible, and the open mouth reminded one of the mouth of a hippopotamus or rhinoceros on a small scale.

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* A clinical lecture delivered at University College Hospital.

The history was that the enlargement of the gums was first noticed four years ago, when the patient went to the Middlesex Hospital and was admitted under the late Mr. Hulke. I am enabled by the kindness of Mr. Storer Bennett to show you two casts which he took at that time, and which show comparatively slight hypertrophy of the gums and no displacement of the teeth. Mr. Hulke cut away the hypertrophied gums of both jaws, and the patient left the hospital relieved. Three months afterwards he noticed that the growth had recommenced, and though it has steadily made progress for the last three years, he has had no further advice for it.

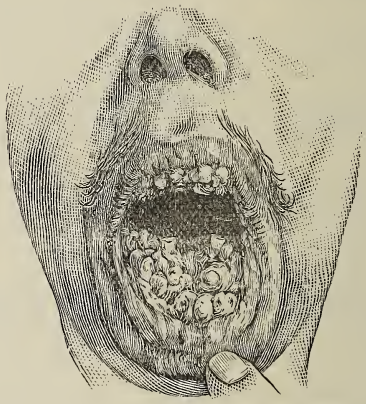

FIG. 1.

On admission here the external deformity was well marked, and on opening the mouth the gums of both jaws were seen to be enormously hypertrophied, and most of the teeth to be loosened and displaced. The palate looked at first like a cleft palate, but this was due to the hypertrophied gum on each side covering the palate nearly to the median line, where a small interval was left. This condition I have met with before, and I show you a cast of the mouth of a young lady who consulted me ten years ago, in whom a similar condition existed.

As the parts are evidently very vascular, and as I knew by previous experience of similar cases that the bleeding would be free, I took the precaution of having the patient in the recumbent position, with his head dependent over the end of the operating table. I then rapidly extracted all the loose teeth of the upper jaw, leaving only the two canines, which were firm, and cut away with scissors the hypertrophied gum down to the alveolus, the edge of which I removed with bone forceps. The bleeding was free, and especially from the folds which enveloped the palate, but was stopped partly by the use of Paquelin's cautery, and partly by plugging the sockets of the teeth.

The patient made a good recovery, and a fortnight later I performed a similar operation on the lower jaw, removing all the loose teeth except the canines and bicuspids, and clearing away freely the hypertrophied gums. The patient's condition now, two months after the last operation, is very satisfactory, the gums being in a healthy condition, and there being nothing abnormal beyond a little looseness of the mucous membrane of the lips.

A microscopical examination of the parts removed, by Mr. Drew, showed that the mucous membrane covering the growth was healthy, the bulk of it being composed of delicate bundles of wavy fibrous tissue, which interlaced. Between the bundles were numerous cells, in some places forming large clusters. Numerous vessels were scattered through the growth.

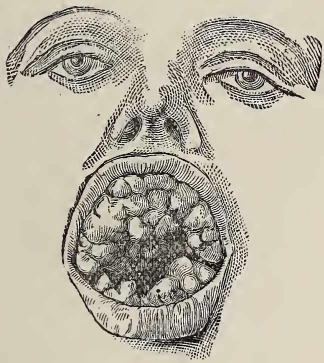

FIG. 2.

Hypertrophy of the gums is a by no means common affection, The first case recorded was, I believe, by Salter, the case occurring at St. George's Hospital in 1859, under Mr. Pollock, in a girl aged 8. Salter speaks of it as a congenital affection, but this, I think, is a mistake, for the affection, though occurring in children, has never, so far as I know, been noticed at birth.

Just thirty years ago I saw a case in this hospital under Mr. Erichsen, in a child of 2½ years, in whom the affection had shown itself at the age of 7 months, when the teeth began to appear. Mr. Erichsen removed the exuberant growth freely, and cauterised the cut surfaces, but a permanent cure was not brought about, for, when 7 years of age, the child was brought before the Royal Medical and Chirurgical Society by the late Dr. John Murray, to illustrate a paper on "Three Peculiar Cases of Molluscum Fibrosum in Children of One Family." Mr. Erichsen's patient was the eldest of the three, and her portrait (which was shown) bears out the description given of the hypertrophied condition of the gums. The other children, aged 4 and 2, had similar conditions of the gums.

Ten years later I had a similar case in this hospital in a girl of 4½ years, who was one of five otherwise healthy children. The swelling of the gums had been noticed for two years, and when she was admitted the gums were enormously hypertrophied, as is shown in the casts taken at the time. Under chloroform I removed each hypertrophied gum and alveolar border in one piece, which I have had preserved in the museum, and she made a good recovery. About the same time I had a case in private in the person of a young man aged 26, in whom the hypertrophy affected only one side of the lower jaw, extending from the right wisdom to the left canine tooth. The affection had been noticed from early childhood, and gave no pain. Here I removed the affected alveolus with bone forceps, and a complete recovery ensued, which I know to be permanent, as I happen to have heard from the patient quite recently.

It is remarkable that in most of the cases of children affected by hypertrophy of the gums some want of mental development was noticed, but certainly in the two young men upon whom I have operated no such deficiency was to be observed.

A remarkable instance of the disease, also occurring in an adult, was recorded by Mr. MacGillivray, Surgeon to the Bendigo Hospital in Australia, and the condition of the patient is shown in fig. 2. The patient, a woman aged 29, seemed to have suffered from the affection in both jaws soon after birth. At the age of 10 portions of the gum were cut away, and several teeth extracted, and she had herself in later life cut away portions of the projecting gum with a razor. All these operations gave rise to severe hæmorrhage. The enormous growth shown in the drawing seemed to have originated mainly from the palatal portion of the gums, the labial surface being comparatively sound. Mr. MacGillivray removed the hypertrophied gums and alveoli with perfect success.

A condition of outgrowth from the gum, due to the irritation of tartar or of artificial teeth, somewhat resembling hypertrophy of the gums but much less vascular, is known as polypus of the gums; and it happens that I had a remarkable instance of this last week. You will remember an old blind woman who was sent to me with a large fleshy mass projecting from the upper alveolus, which I removed at once by tearing it from its attachment with the finger, the resulting hæmorrhage being slight. We found that it had sprung from the upper alveolus, in which the teeth were broken and encrusted with tartar, and it is evident that this fleshy mass was nothing more than a local hypertrophy of the gum, the result of irritation. This must not be confounded with the true fibrous epulis which springs from the periosteum of the alveolus, nor again with the vascular myeloid growth which springs from the interior of the alveolus, and forms a maroon-coloured tumour—badly called a myeloid epulis—of which we have recently had an example in a young girl aged 17.—*British Medical Journal.*

Eucaine in Dental Practice.

By CARL E. KLOTZ, L.D.S.

PROMPTED by the well-known report of H. Kissel, dentist, of Berlin, on eucaine, I have undertaken to experiment largely with this new local anæsthetic in my practice, where I have abundant operative material to give it a good and fair trial. I consider it the duty of every dental practitioner to try to test such new remedies as tend to alleviate the pain of dental operations, and to do away with the use of narcotics, such as chloroform, ether, bromether, &c.

Following the information of Dr. Kissel, I injected 1 to 1½ grains of a 10 per cent. solution of eucaine at one time. This was sufficient to extract five contiguous roots in the lower jaw; in extracting the sixth root pain was felt. No unpleasant after effects were noticed—that is, such as would appear immediately after the injection or operation, but the patients complained of œdema. My efforts were now directed towards finding ways and means to overcome this difficulty, in which I have been successful, as will be seen farther on. As I took it for granted that the swelling was due in part to the quantity of eucaine solution in a single vesicle on the gums, I tried the method of injecting a small quantity at each root or tooth, particularly in such cases where a number of teeth had to be extracted, and which were not adjacent, but scattered. Although the swellings were not nearly so large, still they were present. In the course of my experiments with about two hundred cases, I have come to the conclusion that, if the gums are thoroughly disinfected before injecting, which may quickly and easily be done with peroxide of hydrogen, and after the extraction to prick the gums with the point of the syringe and by pressure of the finger to remove the liquid, then very little swelling will appear.

I have used eucaine for the extraction of all teeth in both upper and lower jaws, preparatory to inserting an entire set, and the results as to the anæsthetic effects were in every respect all that could be desired.

In about two to five minutes after the injection of 0·3 grains for the extraction of a tooth, the patient feels a numbness of the part injected, and has the sensation that the injected part is insensible, also has perfect confidence in its anæsthetic effects.

In a great many cases where I was in the habit of using chloroform, I now use eucaine. In one case, for the extraction of one tooth and fifteen roots for a lady patient, I used altogether 3·5 grains of a 10 per cent. solution. At this time I did not know that the maximum dose was 3·0 grains *pro die*, and which I overstepped by 0·5 grains. The patient's head felt benumbed, which lasted only for a few minutes; this little disturbance was so slight that the patient declared she would much rather endure the slight headache, than the disagreeable after effects of chloroform.

Very noticeable was the effect of eucaine in a case where I intended to extract thirty-one roots, but after I had extracted nine of them I had to stop, as the patient became uncommonly frightened and nervous. After three days she came back of her own free will, so fully convinced of the effectiveness of the eucaine that she had the remaining twenty-two roots extracted at one sitting, for which I used 3·1 grains eucaine. The swelling in this case lasted for three days and then gradually disappeared. Notwithstanding the small quantity of 0·3 grains for one, or 0·4 grains for two adjacent roots, I can always fully anæsthetise the parts with it. In extracting, the patient experiences the sensation of touching the tooth with a steel instrument, and of lifting it out of its socket, but feels no pain whatever.

Quite recently I had a case of extracting ten teeth for a patient whose development, both bodily and mentally, was retarded through scoliosis, and dreaded an operation of even one tooth. After considerable persuasion, she submitted to the extraction of one root, for which I used 0·3 grain of eucaine, and this was so successful that she submitted to the extraction of the remaining roots without any hesitation.

In another case fourteen teeth were extracted in one sitting, for the painless extraction of which the patient expressed his gratitude.

I have found in unintelligent female patients a certain amount of distrust or suspicion towards all new remedies, and have frequently seen the patient's companions, who accompanied them to the office, and whom I had asked to be present and witness the operation, shake their heads in astonishment as I extracted root after root in quick succession, without the patient showing the slightest symptoms of pain by either sound or mien.

While I was still experimenting, I had occasion to visit the place of manufacture of eucaine, and was informed that recently eucaine was prepared which was free of methylalcohol, and that to the presence of this methylalcohol might be attributed the swelling after injecting. Since using this new preparation, I have not had any complaints about œdema, not even in the last-cited case of the extraction of fourteen roots. But I do not know whether to attribute the non-appearance of the swelling to the absence of the methylalcohol or to my method of removing the eucaine solution from the gums by pressure after extraction.

The eucaine not containing the methylalcohol has a little drawback, inasmuch that it crystallizes slightly at the margin of the solution on the bottle. It would be advantageous, therefore, if it could be placed on the market in a prepared solution of 1 to 10, similar to the solution of cocaine used for injecting.

I have never noticed any acceleration nor diminution of the pulse, and dizziness, fainting or nausea have never appeared, not even when the maximum quantity, 3·0 grains, was injected.

In conclusion, I can only repeat that I consider eucaine as a valuable adjunct in practice.

The advantages of a local over a general anæsthetic are apparent. How unpleasant very frequently in a chloroform narcosis is the excitation or vomiting, and how very unsatisfactory sometimes is the operation with nitrous oxide, when one must extract rapidly, so as to complete the extraction before the patient awakes from the effects. Bromether is also unpleasant on account of its odour.

Dr. Heller (in the *Deutsche Monatsschrift fur Zahnheilkunde*) says that the swelling after injecting eucaine, mentioned by both Drs. Kissel and Wolf, will always appear, and cannot be prevented by antiseptic precautions. It is also the same whether one uses eucaine containing methylalcohol or eucaine not containing it, and pricking the gums and pressing out the liquor does not prevent it. He also draws attention to the pain that regularly occurs when injecting eucaine into the gums. A great advantage eucaine has over cocaine is that it is effective in periostitis, where cocaine has failed in the majority of cases.

Dr. Ahrenfeld (*Rundschau*, No. 220) reports over 250 cases in which, with one exception, he extracted the teeth without pain. He thinks that the swelling can be prevented by using a minimum dose. After a great many experiments, he has found that 0·5 grains of an 8 per cent. solution is sufficient.—(Translated for *The Dominion Dental Journal* by Louis Wolf from the *Zahntechnische Reform.*)

An Electric Furnace for Crown Work.

BY S. MITCHELL, L.D.S.I.

WHILST attending the British Dental Association meetings in London last August, Mr. Mitchell was very much interested in the two larger electric furnaces shown, and which, it was stated, consumed about 10 amperes each. It occurred to him that if a smaller one could be constructed suitable for crown work, which could be heated up quickly, and which would consume a smaller amount of current, it would be a great convenience to those dentists who could obtain their supply of electric current from the town's main.

The total cost of the one which he had brought for inspection was under 7s., and its construction was so simple that any dental mechanic ought to be able to construct it for himself. In the furnace shown there was 3½ yards of iridio-platinum wire (20 per cent. iridium), ·008 inch diameter, known to electricians as No. 36 B.W.G.

To wind the wire he got a small brass tube, about ⅞ of an inch in diameter and 4 inches long, on which he wrapped two layers of ordinary notepaper; over this he placed another four layers of paper from a strip about 1¾ inches wide. On this last paper, which was placed about centrally on the tube, he carefully wound the wire, having first taken care to have a small stud placed at each end to secure the wire, and prevent it from slipping.

The wire must be carefully wrapped in such a manner that the three yards which Mr. Mitchell had since found to be a suitable quantity for 110 volt circuits, or 98 inches for 100 volt circuits (as in Manchester, Leeds, &c.), shall extend over about 1⅝ inches of 1¾ inches of the central portion of the tube, no two wires touching. The ends must, of course, be secured to the studs just mentioned, and he suggested that before winding the wire a preliminary trial should be made with the same length of ordinary sewing cotton. To form the body of the furnace, he had found it best to make a zinc die, 2½ inches long, 2 inches wide, and 2 inches deep; by the help of this die sheet copper could be easily hammered so as to fit the bottom and two sides, and also made to overlap the die, say ⅛ inch at each end. The ends may be cut out of the same thin sheet copper, and ⅞ inch holes made in them, so that they will just slip over the ends of the already wired and paper-covered tube. The top of the furnace must be made of mica, about $\frac{1}{16}$ inch thick, or slate (ordinary schoolboy slate will do), and must, of course, be 2½ inches by 2 inches. In the mica holes must be drilled at convenient places to hold the terminal or binding screws, and these must be secured to the top before the furnace is put together. It is advisable also before finishing to drill or punch a few small holes in the sheet copper of the body to allow for the escape of moisture. When the terminals have been fixed to the slate or mica, a small notch should be sawn with a fret saw or dividing file from the edge of the slate to the terminals, to allow of the ends of the wire being easily fixed thereto.

The furnace is now ready for putting together. The ends must be slipped over the tube, and these again placed in the outer body, or shell of the furnace, when it will be found that the coil of wire is in its proper position. Care must now be taken that the ends do not move or slip about, and this is perhaps best done by fixing them to the body by a touch of soft solder. The ends of the wire must then be released from the small studs, and temporarily fixed on the outside of the furnace body, opposite to where the terminals will come.

The investing material, which may be composed of powdered asbestos and plaster, equal parts by weight, is now put in somewhat after the manner of filling up a flask in vulcanite work. The top of the furnace is then put on, and the ends of the wire permanently fixed to the two terminals, in such a manner that they are not liable to be accidentally broken.

A piece of wire, or small strip of copper, must now be put over the ends, on the top of the mica or slate, and fixed to the sides of the furnace, either by hard soldering or by drilling and putting in a headed pin or stud, about 1 inch long, so that the whole may be bound together.

The furnace must now be set aside to dry, and when all the moisture is driven out may be put over a Bunsen flame, and left till the paper which covered the tube is charred, when the tube may be easily withdrawn, leaving a depression in the central portion (formed by the four layers of paper), which must be filled in with a mixture composed of finely-sifted fireclay 1 part, pure silica 1 part, and china clay 1 part, made into a paste with water.* This must be allowed to become quite dry, when the current may be turned into the furnace by connecting the two terminals to the main current. If the instructions have been properly followed, the inside of the furnace will in a short time become white-hot. The current should be left on for a few minutes, when it will be found that the lining of silica, &c., has contracted, and cracked considerably. The furnace must be allowed to cool, the contracted portions gently pressed back into place, and the whole rubbed over with kaolin and water, either by means of the finger or a small camel-hair brush, which will fill up all the cracks, and when fired again become permanent. Should, however, the lining at any future time show signs of cracking, use the kaolin and water as before.

The furnace is still open at both ends; it is now only necessary to fill in one end to the depth of about half an inch with the powdered asbestos and plaster, and then cover the whole of the end with the sheet copper. The amount of current required to heat the furnace is 3 amperes at commencement, which drops down to about 2¼ amperes, when the furnace is fully heated, the falling off in consumption being due to the greater resistance of the wire when incandescent. No outside resistance is required with this furnace, which makes it very simple and also economical, as all the current is utilised where it is required.—*Transactions of the Manchester Odontological Society.*

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* Further experiments have suggested the use of clay, such as is used by makers of clay pipes.

Death under Chloroform given for a Dental Operation.

We have been favoured by Dr. John Stewart, of Crosshill, Glasgow, with the following particulars of a case of death under chloroform during the extraction of teeth.

The patient was a woman, aged 38, of fairly good physique, but of a decidedly nervous temperament. On at least three occasions during the past ten years she had had slight hæmoptysis of two or three days' duration. There was no evidence of lung affection, and, although the hæmoptysis was regarded as being due to some disturbance of the circulatory system, there were no physical signs of cardiac disease. For a month prior to her decease she suffered severely from toothache and neuralgia, and consulted the dentist, who advised extraction.

She was somewhat anxious about the operation, but on the whole was wonderfully calm and self-possessed considering her nervous tendency. The chloroform was administered on lint stretched on a wire frame. At the commencement of the administration she exhibited a slight degree of nervousness, and later on struggled slightly. The pulse, which at first was rapid and weak, became slower and stronger as she passed into a state of unconsciousness, in nine minutes from the beginning of the administration the breathing being regular and easy, her colour perfectly good, the pupils well contracted, and the cornea insensitive. The gag was inserted on the left side of the mouth, and the dentist extracted the affected teeth of the right side, which, with the exception of a little difficulty with the root of the upper wisdom, came out quite easily.

The gag was now removed, and an anterior one substituted. Immediately after the gag was placed in position, and before the dentist had time to seize the next tooth properly, and without previous indication that anything was wrong, the breathing ceased, and at the same moment a ghastly pallor spread over her face. The head was immediately lowered, the tongue pulled forward, artificial respiration commenced, and hot fomentations applied to the præcordia. The circulation did not respond to the stimulus, and, in the hope that some reaction would ensue, a subcutaneous injection of ether was given, and nitrite of amyl held to the mouth while the artificial respiration was proceeded with, but there was no result. Thinking it probable that if the windpipe were open the artificial respiration would be more effectual, a knife was pushed into the trachea, and the wound held open with forceps, but all these efforts were unrewarded by any sign of vitality, although they were persevered in for thirty-five minutes. Dr. Stewart adds that in an experience of fully 800 chloroform administrations, among which were many alarming occurrences short of death, this case stands unique in the awful suddenness with which the calamity occurred. It is worthy of note that at one time the patient had had nitrous oxide gas administered, and had been so ill afterwards that she determined never to take it again. Unfortunately, no details of this circumstance are obtainable.—*The British Medical Journal.*

A Case of Leontiasis Ossea.

BY SAMUEL CLARKE NOBLE, M.R.C.S.ENG.
FORMERLY SURGEON TO THE KENDAL HOSPITAL.

THE case of leontiasis ossea reported by Dr. James Young of Bristol in the *British Medical Journal* of October 31, induces me to record a still more remarkable instance of the same disease that occurred in my practice thirty-seven years ago, and which, perhaps, is better shown in the accompanying illustrations from photographs than by any written description.

Briefly the history is as follows:—The patient at the age of 18, while in the act of sliding, fell on his face, and, as he supposed, broke his nose. From that time, and for about four months afterwards, he could, by squeezing the upper part of his nose, cause clotted blood to come from his nostrils.

About four months after the fall he found a growth, the size of a small nut, in the upper part of his right nostril, after which no further clots escaped; the passage through that nostril became occluded and respiration impossible.

In the course of a very short time he observed a commencing bulging outwards of the right side of the nose, and with such rapidity did the disease advance, that at the expiration of a further period of two months the front and left side of the nose, as well as the forehead, manifested signs of protrusion, and both nostrils became blocked up and impervious to the passage of air.

From this time the protuberance continued to make progress, but less rapidly than before, and the patient then—just one year after the first appearance of the disease—sought admission into the Liverpool Infirmary, where he remained for a fortnight.

No operative interference was attempted or deemed advisable on account of the large size to which the growth had attained.

Twelve months after this the patient was first seen by me, and he presented a most extraordinary appearance, as shown in the illustrations, which are from photographs. His general health had always been good, his spirits were high, and he worked daily in a mill. He experienced no pain, except about once a year, when he suffered for a week or ten days from continued pain in the frontal and occipital regions. The disease continued to make progress, and attained the following remarkable measurements, namely:—(1) In a transverse direction: across the protrusion on frontal bone, 4½ inches; from inner angle of right eye to inner angle of left eye, 5 inches ; from protrusion below right eye to left side of nose, 6¼ inches; across the lower end of nose, 3½ inches. (2) In a vertical direction : from the protrusion on frontal bone to the end of the nose, 6½ inches.

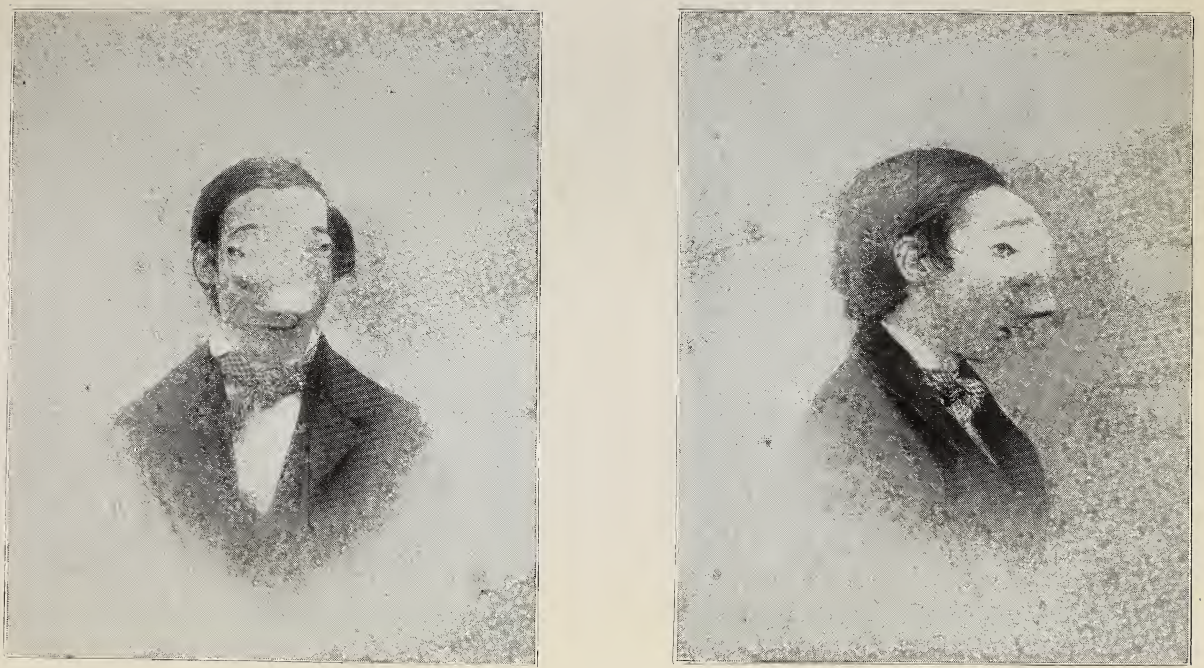
The patient's condition had now become so insufferable to himself on account of his frightful unsightliness, and the remarks he overheard from those who happened to see him, that he determined, whatever the consequence, to have some operation tried, and remarked that "he would rather die under it than continue to live with such a horrible disfigurement." Accordingly he was sent to the Middlesex Hospital, and there operated upon by the late Mr. Moore. Unfortunately, however, the patient died just before the operation was completed. The diseased parts removed are in the museum at the Middlesex Hospital.—*British Medical Journal.*

Why do Metal Clasps Cause less Destruction of the Teeth than Rubber Clasps?

THE fact that a tooth held by a rubber clasp is usually one over which a sentence of death is pronounced, cannot be denied, says Dr. C. Zung, of Heidelberg, in *Oester-Ung. Viertely f. Zahnh.* Very soon after the clasp has been in use, ring-shaped caries appear, especially near the neck of the tooth, and in a short time the tooth is lost. It is quite different with a gold clasp. Of course, decay may also be noticeable in time, but not so pronounced, and as a rule it does not occur so quickly. The manner of decay also differs. It appears to be more a kind of mechanical wearing out (especially with narrow wire clasps), and true caries is less often seen.

We cannot thoroughly explain this difference in the wear of the two kinds of clasps. With metal clasps there is always a slight space between the tooth and the clasp, even though the tooth be most carefully fitted, and bits of food can be more easily removed from this space than from under the tight-fitting vulcanite clasps ; consequently there is less fermentable material left to produce acids and destroy the tooth. Moreover, the smooth surface of a metal clasp would less favour the adhesion of bits of food than the uneven, porous surface of a rubber clasp.

Germicidal Action of Gold Clasps.—The true reason, perhaps, is to be found in the deterrent influence of the metal upon the cause of the fermentation, a proposition which seems quite reasonable in view of the results of modern bacteriological research. We know that metals, especially precious metals, are able to inhibit the development of micro-organisms through contact, though we cannot explain why. The latest researches of Halsted, of Credé, and others, show that many kinds of bacilli excrete acids in culture mediums which, in



A Case of Leontiasis Ossea.

statu nascendi, attack silver and other metals, so that metagallic acids are formed, which react antiseptically, and become fatal to their progenitors.

It would be well to test this by lining all rubber clasps with gold, which may be readily accomplished. Use a thin band of fourteen or sixteen carat gold to which the rubber may be made to adhere either by punching holes or by soldering on it small eyes. Pure platinum or fine gold are not as well adapted to this purpose as the lower alloys, but the impure metals will not serve at all. The band should not be too thin as the edges would then be too easily bent.—*Items of Interest.*

Reviews and Notices of Books.

BACTERIA OF THE SPUTA AND CRYPTOGAMIC FLORA OF THE MOUTH. By Filandro Vicentini, M.D.*

The present work consists of three separate papers, read by the author before the Royal Medico-Chirurgical Society of Naples, and now translated into English and brought together in one volume.

The first paper deals with the author's researches and views on the sputa of whooping cough. The second paper is on the morphology and biology of the microbes of the mouth; and the third is on Leptothrix Racemosa—a name given by Dr. Vicentini to an organism which he finds in the sputum and in the mouth, and which he considers to be the parent form of the other mouth organisms described as cocci, leptothrix, and pirochœteve.

These papers were written several years ago, having appeared in Italian in the years 1890 and 1892, but have been re-edited before translation, and the references brought up to a more recent date.

The preface is written by Prof. Miller, of Berlin, who, while recommending the study of Dr. Vicentini's work as a contribution to a better understanding of the biology of the micro-organisms of the human mouth, is careful not to identify himself with Dr. Vicentini in his deductions as to the common origin of so many of the diverse organisms found in the mouth and sputum. He says:—" In the summing up of the author's work, which he has placed at my disposal in the English and French languages, I have found nothing which, in my opinion, justifies the conclusion that not only all bacteria found in the human mouth, but that even the pneumococcus, bacillus tuberculosis, and gonococcus, are simply derivations of the same normal organism." " If we go *so* far," says Dr. Miller, " we may with equal show of reason include the bacilli of diphtheria, typhus, cholera, &c.—in fact, derive all known species of bacteria from one common parent plant."

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* A communication on Dr. Vicentini's papers was read before the Odontological Society of Great Britain in January, 1894. (Trans., vol. xxvi., No. 3, p. 75), also in an article in the *Lancet*, February 24, 1894, vol. i., p. 487.

The first part of the book deals with the sputa of whooping cough, and the author, after giving a short *résumé* of the researches hitherto made on this subject, enters into details of the results of certain investigations of his own.

The chief point to which attention is drawn is the presence in the sputum, in great abundance, of the substance called myelin, first described by Virchow, which exists in the white matter of the brain and spinal cord, and in the medullary sheaths of nerves, as well as in various other parts of the body. It is considered to be the result of certain modifications of fatty substances.

The author considers this great abundance of myelin to be characteristic of whooping cough, and to be connected with the nervous phenomena of that disease, and says (p. 72): " This constant connection may open a new view of the pathogenesis and etiology of whooping cough, or may at least induce others to undertake similar researches on the nature of expired air; on the structure or condition of the medullary sheath of those nerve fibres that secrete myelin, and which are distributed throughout the mucous membrane of the air passages, and which lie as a network just beneath the layer of epithelium, at all points where the mucous membrane extends."

We find it a little difficult to follow the author when he says at p. 36 that " he leaves it to others " to enter into the question whether such a diffusion of myelin in expired air, if proved, might not be a means of spreading the disease?" We cannot but ask, how? The myelin is the product of the destruction of fatty matter, presumably, according to Dr. Vicentini, from the medullary sheaths of the medullated nerve fibres. It can hardly in itself be in any sense infective, but is simply a waste product eliminated by the organism.

The conclusion at which the author arrives is that whooping cough is not rendered contagious by bacteria, as he does not consider that any of the forms of micro-organism found in the sputum of whooping cough are specific causes of disease.

Dr. Vicentini also does not consider that the tubercle bacillus of Koch has been proved to be the cause of tuberculosis; but it is not easy to see the force of his argument with reference to this question—he will not admit that the chemical test is a reliable one, pointing to one specific organism—he says p. 55, "a purely chemical characteristic can hardly be elevated into a morphological or biological one fit to determine a particular species of micro-organism," but surely, neither Koch nor any of his followers have attempted to do this—the specific character of the tubercle bacillus has been fully determined by means of culture and inoculation experiments, and this chemical peculiarity which the tubercle bacillus possesses, of retaining the dye after treatment with acid, is merely a very valuable means of detecting the presence of an organism, proved as it appears to us, to be the specific cause of the disease, by other and more certain methods.

In this, as in other parts of the work, the author seems to very much ignore culture and inoculation experiments, and to dwell almost exclusively on morphological tests, which we think are generally acknowledged to be often very misleading.

In the second part of the work the author deals further with the micro-organisms found in the sputum, and is of opinion they can most, if not all, be referred to two species—bacterium termo and leptothrix, and appears afterwards to abandon bacterium termo and refer them all to leptothrix.

The term leptothrix has been very loosely employed by most authors in describing the micro-organisms of the mouth, and as Dr. Miller says, "almost every living organism occurring in the mouth was designated by this common name. Hallier and many of his successors up to the present time adopted this view. The motile bacteria of the mouth were regarded as the swarm spores of leptothrix buccalis, the immotile (cocci, &c.) as the spores at rest. Elements of leptothrix buccalis were found everywhere."* Dr. Vicentini would substitute for the leptothrix of the text-books, his leptothrix racemosa, and considers that the different organisms described as leptothrix are different phases of this cryptogamic plant. The author describes (1) grape-like bunches as arising from this plant which consist of fertile filaments or central stem with reserve gemmules inside; (2) peduncles or sterigmata arranged in six longitudinal rows; (3) the sporules; (4) a gelatinous protective envelope. He describes also adult male organs and developing male organs, antherids or spermagones.

He considers the well known motile spirillum sputigenum to be pointed bacilli which are probably copulatory organs of the plant. Leptothrix, then, is held to "exist as bacterium, bacillus, or filament, to possess real organs of reproduction by which it would resemble fungi and diœcious algæ, with distinct sexes upon different filaments or individuals."

The minute cocci found in the mouth, our author looks upon as sporules dropped from the fructification ears, and he further says, "*the bead-like bacilli of Koch might be only these same sporules disposed in series, and thus germinating in the tubercular deposits and elsewhere;*" he looks, in fact, upon all or nearly all the bacteria to be found in the sputa as nothing but particles, or various organs of a single plant. He considers the name of bacterium or bacillus can no longer be considered synonymous with micro-organism, and says, "we may speak of bacteria and bacilli, if by those names we mean particles or articulations detached from the mother plant;" and further, p. 142, "we shall be able to recognise the difference between the botanical and pathogenic entity of bacteria; that two or more bacteria, totally different in their pathogenic action, may proceed from a single micro-organism, and that a bacterium not pathogenic, may belong in its turn to the same micro-organism from which a pathogenic bacterium proceeds." This latter statement is somewhat startling, and does not appear to us at all consistent with observed facts.

Zopf, Nägeli and Buchner have all held somewhat similar views as to the stability of the species of bacteria, but these views have rapidly lost ground in late years, so many of the variations described having been due to imperfect methods of culture and contamination of the material. As the methods have improved, the fixity of species has been more and more firmly established.

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* "Micro-organisms of the Mouth," by W. D. Miller.

We can follow the author so far as he dwells upon the probability of many of the organisms found in the mouth being different stages in the life history of a single fungus, and there is no improbability in the conclusion that his leptothrix racemosa may have a higher mode of reproduction than the ordinary mode by division, seen in the bacteria, for we know that in the higher fungi there is true sexual reproduction; but knowing how widely species are disseminated in nature, it seems *à priori* very improbable that the main bulk of the micro-organisms found in the human body should belong only to one species.

Dr. Vicentini appears to go very far in his attempt to simplify the classification of micro-organisms, but it is very difficult to see what are the grounds on which he bases these remarkable conclusions; from a perusal of his work it appears that as far as his own researches go they are founded upon microscopical examination, and on that almost solely, and we can scarcely refrain from a doubt as to the value of deductions made on this ground alone.

Dr. Vicentini has devoted much time and labour to these researches, and his observations cannot fail to be of value to the study of the morphology of the cryptogamic flora of the mouth, but we think there are not many bacteriologists who will be able to follow him fully in his conclusions, and we fear that if these deductions were true, instead of simplifying, they would much complicate the study of an already very difficult science.

The book is excellently printed, and illustrated with coloured plates from Dr. Vicentini's own drawings.

J. Howard Mummery.

AIDS TO THE STUDY OF BACTERIOLOGY. By T. H. Pearmain and C. G. Moor, M.A. London: Messrs. Bailliere, Tindall and Cox, 20 and 21, King William Street, Strand, W.C.

This very excellent little book—as the authors say in the Preface—"can only be regarded as a primer of the most elementary description from which general ideas can be obtained previous to the serious study of the science," but certainly, as an introduction to this more serious study, it supplies a want felt by many a student, and supplies it in a way that very few elementary works can lay claim to do.

Anyone who thoroughly masters the contents of this little work will have a very sound knowledge of the general principles which underlie this newborn science, and will also have a very fair acquaintance with the characters of the principal pathogenic micro-organisms and their diagnosis. The arrangement of the subject matter, and the division into paragraphs with a heading in heavy type, make it very easy of reference.

The chapter on methods deals with the principles on which the different culture processes were founded, and treats shortly but succinctly with all the more important methods of culture.

Section 4, which deals with the different modes in which disease spreads, with disinfection and immunity, &c., is particularly happy, and it would be difficult to find these complicated questions dealt with in so lucid a manner in such small space.

We have nothing but praise for this most valuable primer, and to the medical and dental student we are sure it will prove of the greatest service, for the time has arrived when every member of the medical profession, in whatever speciality he practises, must have an acquaintance with, at all events, the main principles of bacteriology, and to all a knowledge of the more important pathogenic micro-organisms and their mode of entrance into the body is absolutely essential.

Obituary.

Dr. L. Hollaender.

We regret to have to record the death, on March 12, after a lengthy illness, of this distinguished German dentist, who for many years consistently laboured on behalf of dental science. He was eminent both as a writer and a teacher, and with his extensive practical duties he was always kept busy. Here in England he was, perhaps, one of the best known of foreign dentists, for he had strong leanings towards English dental methods.

In 1877 he translated and arranged for German readers C. S. Tomes' "Dental Anatomy," a work which was widely appreciated, and destined to exert considerable influence on dental investigation in Germany. In 1881 he translated Kingsley's work on "Oral Deformities," and thus kept his colleagues in touch with the progress of dentistry abroad. In the same year he published his "Beiträge zur Zahnheilkunde" (Contributions to Dentistry). The "Extraction der Zähne" (Extraction of the Teeth), appeared in 1878, and ran through four editions, the last having been published in 1894. In 1885, he also wrote a work, "On the Filling of Teeth."

As a critic Dr. Hollaender was severe, and a certain ruggedness of manner sometimes jarred upon the nerves of his opponents. This, however, will be forgiven and forgotten for the sake of the great services he rendered to German dentistry, which in Hollaender mourns the loss of a faithful worker. In this mourning Hollaender's friends in England join.

Dr. Emile Magitot.

We regret to announce the death of Dr. Emile Magitot, one of the most voluminous writers which this century has produced in France. He was a distinguished anthropologist, and one of his first attempts, "Etudes sur le Développement et sur la Structure des Dents humaines" ("Studies on the Development and the Structure of the Human Teeth"), which he issued as early as 1857, indicated his natural bent, and bore evidence of that love of research which has since rendered him famous in dental annals. Odontological investigations, neglected on his side of the Channel, became his passion, and he was, and in special fields he still remains, *the* French authority in dental science. A German savant recently referred to him as the "creator of the modern clinical pathology of dental caries." Magitot contributed many valuable articles to the celebrated "Dictionnaire encyclopédique des Sciences Médicales." Among his numerous works may be mentioned: "Traité de la Carie Dentaire: Recherches experimentales et thérapeutiques," 1867 ("Treatise on Dental Caries: Experimental and Therapeutic Researches"). In 1877 he published "Traité des Anomalies du Système dentaire chez l'Homme et les

Mammifères" ("Treatise on the Anomalies of the Dental System in Man and the Mammals"). He also wrote a work in conjunction with M. Legros: "De la Chronologie du Follicule chez l'Homme" ("On the Chronology of the Dental Follicle in Man") which appeared in 1873. Magitot held aloof from the great body of French dentists, and had little part in their political ideas, the fulfilment of which culminated in the French Dental Act of 1892. Whether his declared opposition was due to extreme medical bias we need not discuss. Certain it is, however, that in Magitot a great figure has passed away from the dental world, where he cut out new tracks for dental inquiry, and left his footprints well marked in the progress of our science. His *confrères* in all parts of the world will miss his familiar name and regret his death.

New Inventions, &c.

Red Gum "Tabloids."

A PREPARATION of this drug in the form of "Tabloids" has been sent to us by Messrs. Burroughs, Wellcome & Co. Red gum is a mild styptic and antiseptic, and acts as an excellent local and general astringent, and in the preparation under notice care has been taken to adjust the relative proportions of the ingredients so that the full therapeutic effect of the drug may be obtained. In relaxed condition of the throat and mucous membrane of the oral cavity, "Red Gum" will be found to give beneficial results, a tabloid being allowed to slowly dissolve in the mouth.

Miscellanea.

The first Award of the Tomes' Prize.

AT the recent quarterly meeting of the Council of the Royal College of Surgeons the first award of the Tomes' Prize was made, and all will be pleased to hear that the first recipient is Mr. Charles Tomes, F.R.S. In original and other scientific work in relation to all that appertains to dentistry, Mr. Tomes stands out pre-eminently, and the Royal College of Surgeons of England are to be congratulated on their prize decision.

Royal College of Surgeons, Edinburgh.

During the April examinations the following gentlemen passed the first professional examination for the Licence in Dental Surgery:—William James Newman Wood (Dumfries); Archibald McKendrick (Kirkcaldy); William Tweedie (Edinburgh); George Braidwood Wilson (Liverpool); Bernard John Taylor Bennette (Liverpool); John Park Inglis (Edinburgh); George Brewis (Gateshead); James Watt Somerville (Dumbartonshire); John Alexander Cairncross (Edinburgh); Frederick John Blight (Plymouth); James Macleod (Sutherland); George Albert Lloyd (Denbighshire); Alfred Marmion Beamish (South Africa); Charles Ernest Wilkinson (Birkenhead); Thomas Herbert Hillis (British Guinea) and Frank Adye-Curran (Bombay). The following candidates passed the final examination and were admitted L.D.S. Edinburgh:—Ruby Grace Halliday (London); William Alexander Stewart (Perth); John Ainslie Duncan (Cupar-Fife); James Irvine Wilson (Glasgow); Alexander Ballantyne Mackenzie (Inverness); Charles Edward Page, L.R.C.S.E. (Edinburgh); Robert William Markham (London); Edwin Robinson (South Shields); David Johnston Cameron (Kincardineshire); William Gardner (Edinburgh); and John Morison Hood (Edinburgh).

Faculty of Physicians and Surgeons of Glasgow.

At the April sittings of the Dental Board the following candidates passed the first dental examination:—Walter Bruce Hepburn (Glasgow); James Bowie (Glasgow); Alfred George Walby (Belfast). The following passed the final examination, and were admitted Licentiates in Dental Surgery:—Thomas Allday (Birmingham); Sydney Richard Excell (Glasgow); James Hepburn (Glasgow); Alexander Macgregor (Glasgow); Hugh John Miller (Glasgow); Thomas Taylor, Cathcart.

The Dental Department of the North Surrey District School.

The Report of cases treated in the Dental Department of the North Surrey District School, Anerley, during the year ending May 2, 1897, shows that 892 operations were performed. There were 705 extractions—632 of temporary teeth, 58 of permanent teeth, and 15 under anæsthetics. Fillings to the number of 66 were inserted, the remaining operations including the removal of salivary calculus, treatment of alveolar abscess, &c.

A Method of making Festooned Gums on an Artificial Denture.

An effective method of making festooned gums on an artificial denture, without the tedious carving by hand, is mentioned in the *Dental Digest*. The mode of procedure is as follows:—"Arrange the teeth and wax up the case as desired, but leave the necks a little exposed, and with a closely-woven cotton string, which has been drawn through melted wax and allowed to cool, festoon the necks of the teeth, pressing the string between them with any instrument suitable for the purpose. Then with a warm spatula unite the string to the wax, and smooth up the case with a mouth blow-pipe, which will draw the wax up on the string, and give pleasing results. Invest and pack the case, removing the string with the wax. When ready to finish, trim up with a sharp instrument the thin margins of rubber overlapping the teeth, and polish with pumice and a stiff brush-wheel. This will reduce the prominence of the festoon, and make it very lifelike. Do not polish the pink rubber with the fine wheel, as the effect is much better when left dull."

Book Received.

PROCEEDINGS OF THE ACADEMY OF STOMATOLOGY OF PHILADELPHIA, May, 1894, to April, 1896. *Philadelphia:* The S. S. White Dental Manufacturing Company, 1896.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 6. JUNE 15, 1897. Vol. XVIII.

Dental Registration.

THE subject of dental registration is always presenting itself to the notice of the profession in one form or another. At one time a man is being prosecuted for not being on the Register; on another occasion someone is trying to get on the Register who has no right to be there. This month we report two typical cases. In the one case a man called Spero endeavoured to induce the Queen's Bench to issue a mandamus to compel the General Medical Council to put him on the Register. In the other case an unregistered man was fined for calling himself a dentist. Spero's action is the more interesting of the two cases, for the other case presents no new features or difficulties. Spero had been articled and had concluded his apprenticeship before August 1, 1879, by which date all persons had to be on the Register. His indentures had expired subsequently to the passing of the Dentists Act, but by virtue of sec. 37 he would have been entitled to register before August 1, 1879, as though he had been in practice before the passing of the

Act. He failed to do so, and therefore he cannot come on the Register as of right. We believe that Spero was not the only person so desiring to be registered. His was a test case. He and others belonged to an Association bearing the title of Unregistered Dentists, or some such description. At all events, it is a body that has been going to do wonders in riding through the Dentists Act. It has signally failed in its attempts. Certain of the members of some such body have been prosecuted to conviction by the Association. Their bark is worse than their bite. The same remarks apply to a certain section of chemists. They subscribe a fund to fight the Association which is their bugbear. But that has not prevented chemists being successfully prosecuted, and so far as we can ascertain, no funds have been expended by anyone but the defendant on his defence. By the way, if knowledge sufficient to make a chemist should *ipso facto* make him a dentist, why should not every dentist be a chemist? The facts that unregistered men crave to be on the Register, and that others are doing all they can to set the Act at defiance, show not only the value of registration, but also the need for prudent caution in conducting prosecutions. On the question of registration it may be as well to point out that persons who take their dental qualification neglect to register. Not only in the interest of the profession are they bound to do so, but they are in law liable to precisely the same penalties as any unregistered quack. A gentle reminder to this effect may perhaps save these individuals from the unpleasant experience of an appearance at a Police Court.

The other point to which attention has been called is of far greater importance, and that is the question of prosecution. We have pointed out the need for the exercise of prudence and care, in which the Association certainly has not been wanting. It has in England never failed in a single prosecution. Other persons have undertaken prosecutions, and it may safely be said that they have never succeeded in a class of case in which the legal advisers of the Association have advised there should be no prosecution. On the other hand, they have sometimes lost cases similar to those in which the Association has been uniformly successful. In their laudable efforts to show the Association a lead in the matter of prosecution they have omitted to learn lessons that the Association could have taught them. Had these or similar prosecutions been undertaken by local branches under the authority of the Association the prestige of the Association would have been impaired. At the same time everybody is free to prosecute under the Dentists Act. It would be preposterous to suggest that the sanction of the Association should be insisted upon before any prosecution is instituted. This would be merely substituting the British Dental Association for the General Medical Council under the Act of 1878. But it is equally impossible in the interests of the Association that local branches should prosecute. The true position of the local branch should be, to afford members, if they so desire, an opportunity to subscribe and undertake prosecutions in their own neighbourhood. The branch secretary might be provided by the central body with such material as would enable him to give general advice on the conduct of prosecutions. We should not then see summonses dismissed because no Dentists' Register is in court, or because Mr. J. X. and Mr. Y. X. practise as dentists, and one is on the Register, and the other is not, and no evidence is forthcoming to show whether the accused is or is not the registered man. Nor should we see an unqualified man in the witness box testifying to the ability of the unqualified man, who is summoned. The information might be similar to that supplied by the Society of Apothecaries. In order to proceed against a person for unlawfully practising as an apothecary it is necessary to obtain the leave of that Society. The Society issues an extremely able pamphlet to the person getting leave to proceed. It contains a brief exposition of the law; a careful reference to decided cases; it indicates the nature of the evidence required; it gives warning of dangers and pit-falls; it contains the form of summons or plaint. Some such document might be issued to local secretaries. In Scotland and Ireland certain modifications are required, owing to the difference of legal procedure.

At the same time, care would have to be taken to avoid improper use being made of such information, for an instance has been known in which the JOURNAL OF THE BRITISH DENTAL ASSOCIATION had been supplied by a past member to the defendant in a case in which the British Dental Association was the prosecutor; the defendant was, however, duly fined.

In making these suggestions it must be understood that we do not make them under the authority, or with the sanction, of the Representative Board. We offer them merely as suggestions on a matter which we believe to be of some importance to the profession at large.

Treatment of Sweating Hands.

The *Journal de Médecine* gives the following: Take of tincture of belladonna, 1 drachm; cologne water, 1 ounce. Mix. Add a little glycerine at the moment of using, and with the mixture rub the hands strongly. The hands should be first washed in soft water and thoroughly dried.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Annual General Meeting.

The Annual General Meeting of the British Dental Association will be held in the Medical School Buildings of Trinity College, Dublin, on Tuesday, Wednesday, and Thursday, August 17, 18, and 19 next.

Members desirous of reading papers or bringing forward Casual Communications are requested to give early intimation to the Honorary Secretary, 40, Leicester Square, London, W.C.

Members willing to give demonstrations are requested to communicate with Mr. G. M. P. Murray, Honorary Secretary, Irish Branch, 10, Hume Street, Dublin.

Members wishing to exhibit specimens or to read papers in the Microscopical Section are requested to communicate with Mr. Hopewell Smith, Hon. Secretary of the Section, Lindum House, Boston, Lincolnshire.

PROGRAMME SUMMARY.

Monday Evening, August 16.

Reception and Conversazione by the President and Council of the Irish Branch in the Science and Art Museum.

Tuesday, August 17.

Meeting of the Representative Board in the Board Room.

The General Meeting, Addresses and Business in the Theatre.

Reading and Discussion of Papers.

[Arrangements for the evening's programme are in progress.]

Wednesday Morning, August 18.

Benevolent Fund Meeting in the Theatre.

Meeting of the Microscopical Section in the Theatre. (Lantern illustrations.)

Afternoon.

Demonstrations in the Dental Hospital. [The Hospital immediately adjoins the Medical School of Trinity College. Electric current for motor and light is supplied.]

Evening.

Smoking Concert by the "Odontoblasts," at the Arts' Club, St. Stephen's Green.

Thursday, August 19.

Demonstrations, General and Microscopical, in the Dental Hospital.
Papers, Discussions, and Casual Communications in the Theatre.

Thursday Evening.

The Annual Dinner.

Friday, August 20.

Excursion, provided by the Irish Branch, to Glendalough, Co. Wicklow, one of the most picturesque spots in Ireland.

W. B. PATERSON, *Hon. Secretary.*

N.B.—The foregoing is a brief outline only of the items of the programme as at present arranged; full details will be published later. Arrangements for the entertainment of ladies accompanying members are in progress.

Trinity College and grounds will be open to members, and luncheon will be served daily in the Great Hall.

Arrangements for seeing various places of interest in Dublin will be made and duly notified to Members.

Sir John Power kindly invites the Members to inspect his Distillery in John's Lane.

Postal and telegraph facilities will be afforded members at the Secretary's office, which adjoins the meeting room. Letters and telegrams addressed to members will be received there.

The following hotels have been selected for recommendation to members, and are near to the place of meeting:—The Shelbourne, Morrison's, Hibernian, Maple's, Jury's, Gresham, Metropole. The Royal Marine Hotel at Kingston, Dublin Bay, will also accommodate members, and there is a frequent service of trains and trams between it and Dublin.

A List of Apartments in streets near to the meeting place will shortly be issued.

Messrs. Gaze, the Tourists' Agency Company, propose to issue to members a circular containing a list of tours in Wicklow and other parts near to Dublin, so that those who are unable to obtain accommodation in Dublin during the week following the British Dental Association meeting, *i.e.*, the Horse Show week, August 23 to 28, may be able to select places from which a visit to the Show can easily be made. The circular will also contain a list of other holiday tours in Ireland

MICROSCOPICAL SECTION.

President: A. W. W. Baker, Esq.
President-elect: F. J. Bennett, Esq.

NOTICE.

In view of the great importance which, this year, attaches to the Exhibition and work of the above, great efforts are being made to ensure a large and representative display of specimens, photo-micrographs, lantern slides, &c., illustrating subjects in dental microscopy.

It is particularly requested that all members who are interested in microscopy, and who possess microscope slides or anything appertaining to the section, and who are willing to read papers, will respond to the appeal which is being made and assist in making the section a successful one.

It is suggested that, in order to facilitate arrangements, all promises of help be sent either on or before July 15, to Dr. Baker, or to the Hon. Sec.

The following notice has been sent to the microscopists of the Association, but, of course, it applies equally to all members.

May, 1897.

Dear Sir,—I beg again to remind you of the Microscopical Exhibition in connection with the British Dental Association, whose Annual Meeting is to be held in Dublin, next August. This year a special morning has been assigned to the Microscopial Section, so as to make it part of the General Meeting. I trust that you will kindly co-operate, so that the Exhibition will be thoroughly representative, and our section as successful as possible.

Either Dr. Baker or myself will be glad to receive promises of your help, by the loan of microscopical sections, lantern slides, or photographs, bearing on the subjects of Dental Histology and Patho-Histology. The greatest care will be observed in the guardianship and returning of specimens, and it is hardly necessary to add that the greatest care should be exercised in packing slides.

Yours faithfully,
A. Hopewell Smith, *Hon. Sec.*

Metropolitan Branch.

ORDINARY meeting held May 4, 1897. Mr. SIDNEY SPOKES (President), in the chair.

The minutes of the previous meeting were read and confirmed.

On the motion of Mr. E. LLOYD WILLIAMS, seconded by Mr. R. H. WOODHOUSE, Mr. Wm. Rushton was elected a member of the Representative Board, under Bye-law 16.

Mr. TURNER, Barrister-at-law, gave an address on Clause 3 of the Dentists' Act. The President and Messrs. Baker, Gill, Morgan Hughes, Matheson, Paterson, Reinhardt and Rushton took part in the discussion, and a vote of thanks to Mr. Turner for his valuable address was carried by acclamation

W. H. DOLAMORE,
Hon. Sec.

Midland Counties Branch.

THE Seventeenth Annual Meeting of the members of the Midland Branch of the British Dental Association was held at Rochdale on Thursday, Friday and Saturday, May 13, 14 and 15

The usual meeting of the Council was held at the Rochdale and District Reform Club, on Thursday evening, Mr. Frank Harrison, the retiring president, in the chair.

The Annual General Meeting of members was held on Friday in the Municipal Technical School, kindly placed at the disposal of the Branch by the authorities.

The following gentlemen attended the meeting:—Messrs. J. C. Birch (Leeds), G. Broughton (Patricroft), W. Broughton (Eccles), E. A. Bradbury (Huddersfield), Geo. Brunton (Leeds), R. M. Capon (Liverpool), Henry Campion, G. G. Campion (Manchester), Alfred Cocker (Sowerby-Bridge), Arthur Cocker (Halifax), E. P. Collett (Chorlton-cum-Hardy), C. H. Cooper (Bradford), E. A. Councell (Liverpool), Geo. Cunningham (Cambridge), W. Dall (Glasgow), C. B. Dalby (Manchester), J. J. Dickie (Oldham), J. S. Dickin (Southport), W. Dykes (Bowden), R. Edwards (Liverpool), J. A. Fothergill (Darlington), Thos. Gaddes (Harrogate), F. Harrison (London), W. E. Harding (Shrewsbury), W. A. Hooton (Manchester), G. Hughes (Manchester), Allan Holden (Rochdale), E. Houghton (Manchester), T. M. Howkins (Great Grimsby), J. H. Jones (Sale), T. E. King (York), Chas. Kershaw (Mansfield), E. J. Ladmore (Bradford), G. H. Lodge (Rotherham), Alonza Lodge (Huddersfield), T. Murphy (Bolton), S. Mitchell (Dewsbury), F. Mordaunt (Sheffield), W. Mapplebeck (Liverpool), Chas. Browne-Mason (Scarborough), F. W. Minshall (Salford), Thos. Mansell (Birkenhead), A. A. Matthews (Bradford), J. C. Naylor (Leeds), James M. Nicol (Leeds), W. B. Pearsall

(Dublin), Isaac Renshaw, Elvyn Renshaw (Rochdale), E. Renshaw (Mansfield), Chas. Rippon (Dewsbury), J. C. Storey (Hull), J. E. Sutton (Buxton), W. A. O. Sutcliffe, H. W. Sutcliffe (Bradford), W. Simms (Manchester), C. Stokes (Sheffield), Wm. Taylor (Batley), Jas. Taylor (Leeds), J. Theakstone (Manchester), W. H. Waite (Liverpool), Thos. Wormald (Oldham), R. Woodward (Radcliffe), A. B. Wolfenden (Halifax), G. O. Whittaker (Manchester), W. Somerville-Woodiwis (West-Hartlepool), besides a number of ladies.

The proceedings commenced at half past nine o'clock, when the following demonstrations were performed :—

Room No. 8.—" Fixing a piece of Removable Bridge Work," by C. RIPPON, L.D.S. ; " Fixing Porcelain Inlays in Front Teeth," by G. O. WHITTAKER, L.D.S. ; " Fixing a Bonwill Crown," by F. MORDAUNT, L.D.S.

Room No. 9.—" How to make an Electrical Tooth Crown Furnace," by S. MITCHELL, L.D.S. ; " How to make a Regulation Plate without Flasking," by GEO. BRUNTON ; " How to make and fix Pivot Teeth and fix Crowns," also " Different Systems of Regulation Appliances," by J. C. BIRCH, L.D.S. ; " How to make Gold Collar Tube Crowns," by A. B. WOLFENDEN, L.D.S.

Plumber's Laboratory.—" Crown Making with Gartrell's Improved Furnace," by E. P. COLLETT, L.D.S. ; " Continuous Gum Work with Gartrell's Furnace," by W. SIMMS, L.D.S., and J. THEAKSTON, L.D.S.; W. DALL, L.D.S., of Glasgow, showed his " New Tooth Crown Furnace"; I. RENSHAW, L.D.S., showed a " Steam Tight Vulcanizer without flange packing."

At 11 o'clock the members assembled in the Chemical Theatre for the transaction of the usual business of the Annual Meeting, the retiring President, Mr. F. Harrison, M.R.C.S., L.D.S., in the Chair.

A telegram was read from Mr. Sydney Wormald, of Stockport, the first treasurer of the Branch, expressing regret that he was unable to attend the meeting, and wishing that the meeting would be a successful one.

The HON. SECRETARY then read the following report :—

GENTLEMEN,—In presenting to you the Seventeenth Annual Report of the proceedings of this Branch of the British Dental Association, it is gratifying to state that the work which has been done during the past year has been of a very satisfactory character. The meetings have been very well attended, the interest in them being well maintained.

There have been three meetings of the members during the year commencing with the Annual Meeting held at Sheffield in June last ; the Autumnal Meeting held at Buxton ; and the Winter Meeting held at Liverpool in February.

The business of the last Annual Meeting was held at the Firth College, Sheffield, on the morning of Friday, June 26, and presided over by the retiring President, Mr. J. C. Storey, L.D.S., after which the President-Elect, Mr. F. Harrison, M.R.C.S., L.D.S., gave his Inaugural Address, and conducted the after proceedings which took place in the afternoon at the Royal Hospital, when the following demonstrations were undertaken :—" Everyday Impression taking in Stent," by J. C. Storey, L.D.S. ; " The Manufacture of a 'Downie' Crown," by George Brunton ; " The Making of Seamless Gold Crowns," by I. Renshaw, L.D.S. ; Dr. de Trey's " Solila Gold," by J. C. Birch, L.D.S. ; " The Treatment of Putrescent Pulp Canals," by Dr. Schreiers ; " Kalium Natrium," by Dr. E. Catt ; " The Advantages of Husband's Pluggers in Gold Filling," by R. C. Drabble ; "The Cryptoscope Working with the 'X' Rays as an aid to Dental Diagnosis," by F. Harrison, M.R.C.S., L.D.S.

A discussion on the demonstrations afterwards took place in the Board Room of the Hospital, following which Mr. Blandy showed a Skull Cap he had invented for holding together fractured parts of a broken jaw. There were no papers read at this meeting. After the usual votes of thanks to the Authorities in connection with the Firth College and the Royal Hospital the meeting terminated.

The Annual Dinner was held in the evening at the Masonic Hall.

At the Autumnal Meeting held in the Crescent Hotel, Buxton, papers were read on the following subjects :—" Some Points on Gold Filling," by J. P. Headridge, L.D.S., B.Sc.Lond., D.D.S. ; " Some Causes of Antral Abscess," by W. A. Hooton, M.R.C.S., L.D.S.Eng. ; " Fractures of the Inferior Maxilla," by A. A. Matthews, L.D.S.Eng. ; and G. Brunton showed a new polishing material for natural and mineral teeth.

At the Winter Meeting held at the Dental Hospital, Liverpool, in February, a new departure was attempted and proved eminently successful, viz.: — The whole of the morning was devoted to demonstrations :—" New Gas Apparatus : Anæsthesia produced by the combination of Nitrous Oxide and Oxygen," by E. Houghton, L.D.S., and C. B. Dalby, L.D.S. ; " Cataphoresis " in Dental Surgery, by J. S. Dickin, L.D.S. ; " Cohesive Gold Filling," by J. P. Headridge, B.Sc.Lond., L.D.S.E., D.D.S.Penn. ; " The Rationalé of Non-Cohesive Gold Stopping, with an exhibition of his own method," by F. Rose, L.D.S. ; " Fusing Mineral Gum in an Electrical Furnace ; also Swaging Strained Metal Plates on Plaster Models," by John Tindall, L.D.S., for Messrs. J. Royston, L.D.S., and W. Matthews, L.D.S. ; " A Simple Method of Fixing a Gold Crown," by W. H. Gillmore, L.D.S. ; "The Combination of Gold Caps with Plastic Fillings," by R. M. Capon, L.D.S. ; " Fixing a 'Downie' Pivot, also a Simple Gold Crown," by R. H. Bates, L.D.S. ; " A Microscopical Demonstration," by Prof. Paul, F.R.C.S., Lecturer in Dental Anatomy and Histology, and Joseph A. Woods, L.D.S., Demonstrator in Dental Anatomy and Histology, University College.

The Liverpool members invited the members to Luncheon at the Adelphi Hotel, Lime Street, at 1 p.m.

The members re-assembled at 2.15 p.m., in the Chemical Theatre, University College (entrance Brownlow Street), kindly placed at the service of the Branch by the Governors, when the demonstrations were discussed.

Afternooon tea was provided in the Hall of the College at 5 p.m.

Both at the demonstrations and the afternoon discussion there was a good attendance, and the interest was well maintained throughout, which clearly indicates the popularity of our meetings, and that members will make considerable sacrifices to attend them.

Your Council have met three times since the Annual Meeting, viz., at Buxton in October, at Liverpool in February, and at Leeds in March ; when matters affecting the interest of the Branch were discussed.

It will be a matter of interest to the members to know that a local Society has been formed in Leeds for the purpose of meeting together oftener to read papers and to discuss matters of interest to the profession, and has been named "The Society of the Leeds and District Members of the Midland Branch of the B.D.A." It is one of the Bye-laws of the Society that its members must be recognised members of the Midland Branch.

That this course is a wise one, is evidenced by the fact that fresh applications for membership of the Branch have been made in order that the applicants could join the new Society.

For the first time in the history of the Branch, you will be in a position to-day to *elect* your own representative to the Representative Board, instead of simply nominating for Election as heretofore.

This changed condition of things is due to the alteration of the Bye-Laws of the Association effected at the last Annual Meeting of the Association, to which change your Council contributed in no small degree by its action last year.

It will be a matter for satisfaction to the members to know that the Association have taken up two prosecutions during the year within the radius of the Branch against offenders who were violating the provisions of the Dentist Act ; in each case the prosecutions were successful, and the offenders fined, but whether they will act as a deterrent to others in the respective neighbourhoods remains to be seen, but there is no doubt that to some extent the effect will be salutary.

In accordance with a resolution passed at the last Annual Meeting, the sum of £80, being a portion of our balance in the bank, has been invested in Caledonian Railway stock in the names of your Hon. Treasurer and Hon. Secretary.

There are four vacancies to be filled up of members to serve on the Council to-day, namely, Messrs. F. Harrison (London), J. A.

Fothergill (Darlington), T. Mansell (Birkenhead), and Henry Blandy (Nottingham). The first three fall out in the order of rotation but in Mr. Blandy's case we regret to say that he has resigned his position on the Council, owing to his inability to attend the meetings; a position which he has creditably held for a number of years, and his retirement is to be deplored.

He has also ceased to represent this Branch on the Business Committee of the Association, and as your present Hon. Secretary will cease to be an *ex-officio* member of that Committee from to-day, the Representative Board at its last meeting elected him a member of the Business Committee in Mr. Blandy's place.

There have been five resignations of members during the year, namely, Colonel Richard Rogers (Cheltenham), F. Dale (Sheffield), J. E. Greaves (Leeds), A. P. Cater (Stafford), and L. Dreschfeld (Manchester).

In considering Col. Rogers' resignation your Council took into consideration his long-continued membership, and the fact that he had held the Presidential Chair for two years, and they decided to elect him an honorary member of the Branch. The names of three have been left off the list of members, viz., one to the Association and two to the Branch, and one member has been expelled for advertising, but to counterbalance these there has been an accession of twenty-three new members, bringing up the total to 182.

It is pleasing to announce that since the last Annual Meeting twenty-three members have become new subscribers to the Dental Benevolent Fund, representing 16 guineas per annum, in addition to which the sum of £6 1s. was collected at the Annual Dinner, £3 8s. at the Buxton meeting, and £7 6s. at the Liverpool meeting, making a total of £16 15s.

In conclusion, the Council recommend for election as President-elect for 1898, Mr. Chas. Browne-Mason, L.D.S. (Scarborough), and that the next Annual Meeting be held in that town. Also that Mr. A. A. Matthews (Bradford) be your Representative on the Representative Board.

I. RENSHAW, *Hon. Sec.*

Rochdale, *May* 14, 1897.

HON. TREASURER'S REPORT.

Mr. G. G. CAMPION (Hon. Treasurer) stated that at the end of last year (1896) there was a balance in the bank of £107 6s. 9d. Subscriptions amounted to £40 15s., bank interest to £10 4s., giving a total of £148 12s. 1d. After paying all expenses they had been able to purchase £80 of Caledonian Railway stock on which they were receiving 3 per cent. interest, viz. £2 8s. per annum as against 8s. hitherto allowed by the bank, leaving a balance in hand of £35 6s. 9d.

On the motion of the PRESIDENT, seconded by Mr. J. C. STOREY, the Hon. Secretary's and Hon. Treasurer's reports were adopted.

ELECTION OF OFFICERS.

The new Hon. Secretary.

Dr. WAITE rose to propose a successor to Mr. Renshaw as Hon. Secretary. In doing so he observed that he scarcely knew how to express his high appreciation of the fidelity, devotion and earnestness with which Mr. Renshaw had served the Branch during the last seven years. Having had some considerable experience of secretarial duties in connection with the Association, he knew something of the exacting nature of the work required and demanded from anyone who would faithfully discharge the duties, and he was very glad indeed to bear testimony to the fact that Mr. Renshaw had been a most faithful and devoted servant. He was only afraid that the self-sacrifice and the thoroughly earnest labour which he had given to the service of the Branch might have told seriously upon his own health, and possibly upon his own interests.

It was pleasing to know that the members of the Branch were about to offer him some recognition of his services, and it was hoped that he would feel that they thoroughly appreciated what he had done for them. In concluding, he proposed Mr. Thos. E. King (York) for election as the new Hon. Secretary.

Mr. GEORGE BRUNTON seconded the motion, which was carried unanimously.

On the motion of the PRESIDENT, Mr. Campion was re-elected Hon. Treasurer.

For five vacant seats on the Council there were eleven nominations. The ballot resulted in the election of Thos. Murphy (Bolton), A. Cocker (Sowerby Bridge), T. E. Constant (Scarborough), A. B. Wolfenden (Halifax), and W. A. Hooton (Manchester).

Messrs. W. A. Hooton and G. O. Whittaker were re-elected Auditors, and a vote of thanks was accorded to them for their past services.

It was decided to leave the arrangements for the next annual meeting, which will be held at Scarborough, in the hands of Mr. C. Browne-Mason and the Council. On the suggestion of Mr. RENSHAW the autumnal meeting was fixed for October at Doncaster.

THE SUBSCRIPTION.

Mr. T. MURPHY, having given the usual notice that he would propose a resolution affecting the subscriptions to the branch, moved :— "That the Annual Subscription be advanced to 7s. 6d., and that the sums accruing from the additional 2s. 6d. be held in reserve as a fund from which to assist the Association in meeting the expenses of prosecutions taken by the Association against offenders violating the Dentists Act within the area of the operations of the Midland branch."

Mr. THOS. BUCKLEY (Oldham), seconded.

Mr. J. C. NAYLOR (Leeds) thought there was no necessity for the change.

Mr. HENRY CAMPION (Manchester) asked if the funds of the Branch could be used for the purpose named?

The PRESIDENT said this was quite allowable.

Mr. CAMPION thought that under these circumstances it was desirable to increase the subscription.

Mr. J. C. BIRCH (Leeds) was of opinion that if money was required for prosecutions the members would quickly subscribe it.

The resolution, on being put to the meeting, was lost by a large majority.

The meeting at this juncture adjourned till 12.15 p.m.

On re-assembling the President (Mr. Harrison) again occupied the chair, and was supported by His Worship the Mayor of Rochdale, Councillor John Turner, J.P. (who came to the meeting to welcome he members to Rochdale), Mr. Henry Campion, Mr. Thos. Murphy, and Mr. G. G. Campion.

A number of visitors and several ladies were present during the rest of the proceedings.

PRESENTATION TO MR. I. RENSHAW.

The PRESIDENT congratulated the meeting on the numerous attendance, and after thanking the Mayor for his presence, said there was one little matter to which he had to refer before delivering his valedictory address, namely, the presentation they were about to make to their retiring hon. secretary, Mr. Renshaw. He felt it a great honour to take part in that part of the proceedings, and he had very great pleasure in asking their first president of the branch, Mr. Henry Campion, to hand over to Mr. Renshaw the presents which had been so liberally subscribed for by the members.

Mr. HENRY CAMPION (Manchester), in a capital speech, made a series of presentations to Mr. I. Renshaw (president-elect) on his relinquishing the post of hon. secretary of the branch which he had held for the past seven years. He observed they had met to do honour to whom honour was due. He was sorry to say that he had been somewhat out of touch with the work of the Association for several years; but as one of the original founders of the branch and its first president, he felt he could not refuse the request made to him to make the presentation. He said the idea of forming the branch originated some eighteen years ago or more. It was suggested by some that an independent Society be formed, but ultimately it was decided to form a branch in connection with the British Dental Association. It was the first branch formed, and he was pleased to say it had done its duty admirably and it stood second to none of the branches formed since it was established. They had had some truly self-sacrificing officers, among whom he mentioned their old friends, Dr. Waite, first hon. secretary of the branch, and Sidney Wormald, its first hon. treasurer. When Dr. Waite felt compelled to relinquish the hon. secretaryship of the branch, Mr. Renshaw succeeded him, and he had since shown that they had selected the right man for the post. He had devoted himself heart and soul to the welfare of the branch, and had sacrificed not only his health, but a great deal of time from his practice to watch over the interests of his fellow members ; but in doing so he had won the regard and esteem of them all, and he could retire with the full consciousness that he had performed the duties of hon. secretary to the satisfaction of every member of the branch.

As tokens of their sincere esteem and regard they desired to present Mr. Renshaw with a gold watch, a purse of money, and an illuminated address, and Mrs. Renshaw with a silver tea service.

In formally presenting the gifts to Mr. Renshaw, Mr. Campion said :—Mr. Renshaw—in presenting you and Mrs. Renshaw with these gifts on behalf of the members of this branch which you have served so faithfully, I can only express the hope that you and Mrs. Renshaw may be spared the enjoyment of them for many years to come, and that succeeding generations may be able to point to them with pride, as the testimonials of your professional brethren to your valuable services to this branch of the British Dental Association for seven years.

The gifts were of a handsome and valuable description. The text of the illuminated address was as follows :

MIDLAND COUNTIES BRANCH OF THE BRITISH DENTAL ASSOCIATION.

To Isaac Renshaw, Esq., L.D.S., Rochdale.

Dear Sir,—We, the undersigned, on behalf of a large number of the members of the Midland Counties Branch of the British Dental Association, feel that this occasion is a suitable one on which to ask your acceptance of some token of the manner in which your work as honorary secretary has been, and is, appreciated, and also of the high personal esteem in which you are held amongst us.

In relinquishing the post of honorary secretary for the more honourable one of president, you have a record of single-hearted and self-sacrificing work to which none other amongst us can pretend. During the sixteen years since the formation of the branch you have been a member of the Council, and can boast of never having missed a Council meeting. As honorary secretary you have thrown yourself into the work with an enthusiasm and self-sacrifice which, while it has proved a heavy drain on your time and physical powers, has gained you the sincere and lasting goodwill, both of those who have been closely associated with you in the work and all other members of the branch.

As a representative of the branch on the representative board and its business committee, you have made it your chief concern that the Midland branch may continue to maintain its influence, its prestige, and its strength in all that pertains to the true interests of the British Dental Association and our profession.

We beg of you to accept, with this address, the accompanying gold watch and purse, with the silver tea service, which we hope will be acceptable to Mrs. Renshaw; and we sincerely hope that the impairment of your health, which has been so largely due to the unsparing way in which you have discharged your secretarial duties, may soon be a thing of the past, and that you may long be able, as we are sure you will be willing, to promote by your counsel and influence the welfare of that branch of the British Dental Association which you have served so well.

Presented, on behalf of the subscribers, by Henry Campion, Esq., M.R.C.S., at the annual meeting of the Midland branch, held at Rochdale, May 14, 1897.

FRANK HARRISON, M.R.C.S., L.D.S.Edin.
THOMAS MURPHY, L.D.S.I.
A. ALEX. MATTHEWS, L.D.S.Eng.

Mr. Renshaw, who was received with loud applause, was too deeply affected to say more than that he thanked them from the bottom of his heart for their extreme kindness to himself and his wife. If he had the time and the strength and the opportunity to do the work that he had done on behalf of the members over again, he should be only too willing to do it.

THE MAYOR'S WELCOME TO THE VISITORS.

The MAYOR, who was warmly received, extended a very hearty welcome to the visitors. He said he was delighted to see the evidences of their appreciation of his fellow-townsman and their Secretary, Mr. Renshaw, who was well known and highly appreciated in Rochdale. He was connected with many of the town's organisations and was a very useful man. Though a prominent citizen of the town, Mr. Renshaw had not yet aspired to a seat in the Town Council, and he did not know that he need be particularly anxious to do so. He might perhaps spend his time quite as usefully outside of the chamber as in it. Noticing the ladies present the Mayor said he had wondered whether they had lady dentists, but was informed that they were visitors only. We had lady doctors, and he did not see why we should not have lady dentists also.

Rochdale, he reminded them, was not a show town. Its people were a very matter of fact sort of people, who were never satisfied unless they could see some "divi." at the end of their week's work. Referring to the river, His Worship said that within eighteen months fish had been caught in it. It was only fair to say that the fish was brought down from the Water Works and put into the river, and he believed it was taken out dead. The Rochdale Corporation was very energetic, and was seeking in every way to further improve the state of the river, which was in a less foul condition than it used to be.

The Mayor concluded by heartily welcoming the visitors to the town.

The PRESIDENT cordially thanked the Mayor for his kind reception of the branch, and then proceeded to deliver his valedictory address.

GENTLEMEN,—To say that there is no future is as idle as to affirm that there is no past. The influence of the past and the actions of the present make the future. We cannot more than hazard a conjecture as to the methods or events of the future ; let us not consider it more than to act a busy and conscientious present. We may with advantage, however, linger over the past at times and turn over the dusty leaves of the diary of time, and with tears of fond memory philosophise upon the mutability of life.

A favourite philosopher of mine, Marcus Aurelius, in his Meditation 23 says, " Reflect frequently upon the instability of things, and how very fast the scenes of nature are shifted. Matter is in a perpetual flux. Change is always and everywhere at work ; it strikes through causes and effects, and leaves nothing fixed and permanent. And then how very near us stand the two gulfs of time, the past and the future, in which all things disappear. Now is not that man a blockhead that lets these momentary things make him proud, or uneasy, or sorrowful, as though they could trouble him for long."

The lapse of time has brought my year of presidency to an end, and it has also brought my intimate connection with you to a finality. Pray allow me to thank all the members of this Association, in which I have always taken a great interest, for the kindly way in which they have treated me, and for the confidence which they have reposed in me. The Association is to be congratulated on its work in the past. It has had to go through many troubles and anxieties, but what corporate body or individual is without its troubles. And what good, indeed, would it be without them ? They are the compensatory force necessary to all success. The rallying point and means of cementing together forces which combined secure success, which individualised only end in abortive effort. I pray for your successful combination in the present, and if that is assured there need be no fear of the continued integrity, usefulness and importance of the Midland Branch of the British Dental Association. I deeply regret that my interest in life takes me away from among you. My interest, as long as my life lasts will continue with our Association and this Branch with which I have been so intimately connected. Although much has been done in the past—and especially in the past year, which I think you will all agree has been a record one—and I am very proud of it, yet much remains to be done. That this Branch has a great future I have little doubt, knowing, as I do, that it is your individual intention to exert yourselves on its behalf.

And now, gentlemen, so much for the past, so much for the present. The present is already the past, and painful is the duty to leave this chair and become again one of your floor members, but I cannot do so without sincerely thanking our Hon. Secretary, the Council, and the members, who have by their kind consideration and help in making the meetings a success, so ably supported me during my presidency of the Branch. So pain is followed by pleasure, and I have to offer a hand of congratulation to my successor, and to wish him health and strength and a happy and successful year of office.

PRESIDENTIAL ADDRESS.

GENTLEMEN,—My first duty this morning is to thank you very cordially for the high honour you have conferred upon me by placing me in the proud position of President of the Midland Branch of the British Dental Association. My next duty is to give you all a hearty welcome to my native town.

In considering what I should say to you to-day my mind was considerably exercised as to the form my address should take, as there are so many matters to which your attention may with profit be directed—matters affecting the educational, scientific, and political aspects of our meetings ; but the peculiarity of my position to-day leaves me no alternative but to give you a kind of absurdly incongruous valedictory, inaugural, mixed-up, rolled-into-one sort of thing, and you must sort it out for yourselves—valedictory as regards my past office, and inaugural respecting the present one.

During the seventeen years that I have had the privilege and pleasure of attending these meetings, it never once dawned upon me that I should one day occupy this exalted position, and I certainly never looked forward to it, as I felt that I was better serving your interests as your Hon. Secretary than I could possibly serve you in any other capacity.

At a meeting of your Council held at York in February of last year, I submitted for selection the names of four gentlemen who were well fitted to preside over you, but to my astonishment, and I may add dismay, my name was proposed for nomination and adopted. At the time I felt that I could not accept it, and gave my reasons, one of which was that I preferred to act as your Hon. Secretary until I had completed twenty years' service on the Council, if permitted to do so. Another reason was that I did not want you to come to Rochdale, as I was single-handed in the town with reference to Association work. But, gentlemen, protesting was no use, all my objections were overruled, and the honour was crowded upon me, in that at the last Annual Meeting, whilst you elected me your President, you decided that I should hold the dual position of Hon. Secretary as well, and in order to lighten my work you elected Mr. A. A. Matthews of Bradford to assist me in the secretarial duties.

But, you may ask, why repeat to us the tale of this two-fold honour which we already know? Simply because I have decided to relinquish the more onerous and important office, for the dignified and ornamental one which I now occupy. The reasons which impelled me to this course are: firstly, that on looking at the question squarely in all its bearings it would not be politic, in the best interests of the Branch, that such an arrangement should be maintained, and that it were better to sink all personal considerations for the well-being of the Branch. My second reason is that I have felt it inconsistent with the responsibility of a busy practice, and for fear of over-taxing my strength, to undertake the duties of the dual offices. Taking these reasons into consideration you will, I venture to think, agree with me that I have done the right thing.

Some of you may wonder why I have done this work so long, and to you I now say that it was because my whole heart and soul have been in it. I was in at its birth and have seen it grow in numbers and importance, watching it and tending it, in season and out of season, feeling that the Midland Branch of the British Denal Association was assisting in no small degree in educating its members, not merely to a true conception of professional ethics, but in the higher and more important studies involved in the consideration of ways and means to be adopted for the amelioration of suffering, for consistent and honest work in the preservation of the natural organs, and for the true interest of the patients submitted to their care. I have liked the work, too, for the friendships I have been enabled to form with my professional brethren—friendships which I hold in high estimation—and it has also brought me into personal contact with the best men of our day, which has been an incalculable advantage to me; and in relinquishing this work I feel somewhat like a boy who has helped to build a model ship, and having carried it down to the sea shore and placed it upon the waters, sees it drifting far beyond his reach, and can realise his sadness.

Well, gentlemen, though I relinquish the post I do not relinquish the friendships, for I shall always retain a remembrance of the kindness and consideration which have always been extended towards me whenever I have been brought into contact with you, and I thank you kindly from the bottom of my heart.

It has been suggested to me that the present would be a very opportune occasion on which to refer incidentally to one or two matters affecting the Branch, the Association, and the profession generally with which we have had to do, but I am afraid I should be taking up too much of your time, and I should weary you.

There is, however, one matter which I should like to mention, and that is a reference to the 37th, or as it is known, the Apprentice Clause of the Dentists Act.

During my first year of office as your Hon. Secretary, I had the good fortune to have a first-class leader in the President for that year, namely, Mr. H. C. Quinby, of Liverpool, who evidently meant business and intended to make a mark. I refer to him more particularly because I think it desirable that those young men who are just entering professional life, and who are becoming members of our Association, should know to whom they are indebted primarily for the closing of that avenue to registration, which seriously affected to an unjust degree students who had to undergo the regular curriculum and examination as to fitness, before they could have their names placed upon the Dentists' Register of the United Kingdom.

An examination of the Dentists' Register for that year, 1890, was made, in order to ascertain how many names had been added since 1879 by virtue of examination, and how many by virtue of the Apprentice Clause. This examination revealed the astounding fact that in eleven years the names of 312 men had been added to the Register by virtue of this clause, whilst only 264 had been added by virtue of examination during the same period. Mr. Quinby determined to leave no stone unturned until this avenue to improper registration was closed. He represented the condition of things to Dr. Banks of Liverpool, a member of the General Medical Council, who promised to lay the figures before the Medical Council, and to urge the Council to deal with the question. This was done, and whilst the Medical Council were astounded at the anomaly of the figures, they were disinclined to take any action to prevent further registrations under this clause, in the absence of proofs that any single case of fraudulent registration had been effected. They promised, however, that if such proofs could be submitted and substantiated, they would deal with the case upon its merits, and afterwards consider how to make it impossible for any other fraudulent registration to be made.

Dr. Waite having submitted to your Council the name of a man who was supposed to have effected fraudulent registration, it was decided that enquiries be made with a view to supplying the Representative Board of the Association with such details and proofs as would justify them in urging the General Medical Council to reconsider the question.

I am fully alive to the fact that some of the members of this branch were somewhat disgusted at what they termed the apathy and indifference of the Representative Board with reference to cases of infringement of the Dentists Act. But when I tell you that the Representative Board were not only willing but anxious to take up a case whilst the Medical Council was in the mind for action, and that the collection and substantiation of evidence took your Hon. Secretary thirty days from home before the case was deemed ready for presentation to the proper quarter, it will, I think, give you some idea of the difficulties which had to be met and surmounted.

It is now a matter of history, which is recorded on the minutes of the General Medical Council, that we proved our case ; the offender's name was removed from the Register, and notice given to the whole of the profession that in six months the Apprentice Clause would be placed in abeyance. This, gentlemen, is due to the initiative of the Midland Branch, and it is with a degree of pardonable pride that I can reflect upon my share of the work.

You may now ask What are your impressions of the Representative Board and the Business Committee? To which I reply, When I began attending the meetings I was somewhat prejudiced ; I found that others were somewhat prejudiced against me, but I remained on the Committee long enough to remove that, and to lose the prejudice I had against others, and to realise the fact that the Committee were honestly working together to improve the status of the dental profession, and that any well authenticated case of infringement of the Dentists Act would be dealt with in the Law Courts.

To you who have been somewhat disconcerted that the Association has not undertaken more prosecutions I would remind you that the Association has not money to throw away on prosecutions, but that all the actions taken by the Association have been taken to define a section, or to determine the legal technical phraseology of the Dentists Act. And at this point I would lay particular emphasis upon the unwisdom of individuals, or small societies taking up prosecutions against offenders of the Dentists Act which may be heard by the magistracy other than a local stipendiary learned in the law, and uninfluenced by local prejudices and friendships, or sympathy with the offender in the due administration of the law.

I would lay particular stress upon the desirability of laying the facts of an alleged offence against the Dentists Act before the Business Committee of the Association before entering upon any prosecutions, as the employment of a solicitor or barrister unacquainted with the technical details of cases which have been fought and won by the Association, may lead to disastrous results. As an illustration I have only to direct your attention to the first batch of the recent Brighton cases, which were lost through ignorance of the technical points upon which previous cases had been won ; the subsequent convictions being obtained after the barrister of the Association had been sent down to watch the cases on behalf of the Association.

To those who are anxious that more prosecutions should be undertaken, I would urge the absolute necessity of supplying the Association with clear and convincing proofs of alleged cases of infringement of the Dentists Act, which they may wish enquired into, before any action can be taken, and I would remind them that the onus of proof rests upon the complainant, and that the evidence should be collected and presented in such a manner, that in case of failure to sustain a case, the prosecutor should be shielded from the law of libel.

Many complainants seem to think that a mere newspaper cutting, or an unauthentic circular, or a vaguely-written letter, unsupported by any evidence of value, are sufficient to warrant an urgent request that the Representative Board and the Business Committee should waste valuable time, and the funds of the Association, in the consideration of cases sent up in the manner I have described.

But, gentlemen, there are other ways of advocating the claims of our profession, and of educating the public to its advancement than by a series of prosecutions ; and these are embodied in our Articles of Association, namely : —The promotion of dental and allied sciences by the periodical meetings of the members of the Association and the dental profession generally, in different parts of the country, in a manner similar to our meeting to-day, thus assuring to the public that by concentrating together for the purpose of seeking and disseminating knowledge and skill in all that pertains to our specialty, we are building a reputation on a foundation to which the charlatan and the quack can have no claim.

It was my intention to have drawn to your notice some of the scientific advancements and the results of research affecting our specialty during recent years, and to speak of the possibilities of the near future, but time will not permit. Suffice me to say that the improvements in appliances and instruments, and better methods of treatment of cases, are such that greater successes will be assured, and inconvenience and suffering to our patients will be reduced to the lowest possible point ; but these things can only be accomplished by men who have been specially trained for the work, and the main object of our Association is to band such men together for the continuation of this work.

Gentlemen, in conclusion, allow me to thank you for the patience and attention with which you have listened to me, trusting that we shall have a good meeting and a successful year, and that when you return to your homes you may carry with you a good impression of the Rochdale meeting.

Votes of thanks to the retiring President, to Messrs. Murphy and Matthews for organising the presentation to Mr. Renshaw, and to Mr. Campion for making the presentation, were accorded. The members of the Branch then proceeded to the Reform Club, where they partook of luncheon. Adjournment.

2.30 p.m.—Chemical Theatre. Casual communications. The discussion on the demonstrations was deferred. Papers : (1) "The Dental Prosthesis in Edentulous Jaws," by Alfred Cocker, L.D.S., illustrated by numerous lantern slides. (2) "The Mechanical Training of Dental Students during their Pupilage," by Geo. Cunningham, M.A.Cantab., L.D.S.E., D.M.D.Harv., also illustrated by numerous lantern slides.

Messrs. GADDES, PEARSALL, HARRISON, BRUNTON, and STOREY took part in discussing the above papers, which were of a very instructive and interesting character ; owing to the protracted discussion the following paper was deferred to a subsequent meeting :—(3) "How we can best assist the Association in maintaining the Provisions of the Dentists' Act," by Thomas Gaddes, M.D., L.D.S.

Votes of thanks to the Authorities for the use of the Technical School, to the Committee of the Rochdale and District Reform Club for their hospitality, to the Demonstrators and Readers of Papers, and to Messrs. C. Ash & Sons for the loan of chairs and engines for the use of the Demonstrators, brought the meeting to a close.

THE ANNUAL DINNER.

The Annual Dinner of the Branch was held in the Reform Club. Mr. Isaac Renshaw presided. He was supported by the Mayor (Councillor John Turner, J.P.), Mr. A. G. C. Harvey, C.C. (Littleborough), Alderman J. R. Heape, J.P., Mr. F. Harrison, Ex-president of the Association ; Mr. Reginald W. Shaw, Dr. Henry, Dr. Hodgson, Dr. Sellers, Mr. H. D. Rattray, and about sixty other gentlemen.

The Chairman submitted "The Queen and the Royal Family," which was drunk with musical honours.

Alderman J. R. Heape, J.P., proposed "The British Dental Association and the Midland Branch."

Mr. Frank Harrison, the Ex-president, responded to the toast.

Mr. J. C. Storey, of Hull, submitted "The Town and Trade of Rochdale."

The Mayor of Rochdale replied.

The next toast was "The Rochdale Infirmary and the Benevolent Fund." This was proposed by Mr. A. G. C. Harvey, C.C., President of the Reform Club, and acknowledged by Dr. Sellers and Mr. W. E. Harding. The concluding toasts were "The Medical Society of Rochdale," proposed by Mr. G. Cunningham, M.A., L.D.S., and responded to by Dr. Welsh, President ; "Our Visitors," submitted by the President, and responded to by Dr. Henry ; and "The President," proposed by Mr. George Campion.

The toasts and speeches were interspersed with an enjoyable selection of music by Miss Lawton, Miss Renshaw, and the Æolian Opera Quartette, which consists of Miss Edith Shore, Miss S. Whatmough, (whose rendering of "The River of Years" was encored), Mr. James Schofield, and Mr. Charles Parker, R.A.M., director. Mr. C. E. Lewis was the accompanist. Mr. John Dronsfield gave a couple of recitations very acceptably.

Mrs. Renshaw entertained the ladies at an enjoyable reception in the reading room, where they were joined during the evening by a number of gentlemen who had previously attended the dinner.

SATURDAY'S EXCURSION.

"Nearly all the members of the Dental Association who attended the conference held in Rochdale on Friday remained in the town until the following day. Early on Saturday morning a party numbering thirty-five visited the Town Hall, which had been opened for their inspection by the Mayor (Councillor J. Turner). Afterwards they went on to the Slopes, but at that time the atmosphere was so hazy that they could not obtain such a view of the town as they would have enjoyed on a clear day. At a quarter to eleven o'clock they proceeded in waggonettes to Blackstone Edge. Near the old toll-gate the party alighted and inspected the remains of the Roman road. Afterwards they walked to the White House, where the horses were allowed to rest. Next the company proceeded to the White Horse Hotel, Hebden Bridge, where they were entertained at luncheon by the President and Mrs. Renshaw, and subsequently they visited and thoroughly explored Hardcastle Crags. The return journey commenced shortly before six o'clock, and Rochdale was safely reached about half-past eight o'clock. The excursion was very greatly enjoyed by all who took part in it. Most of the visitors previously had no idea that there was such romantic and varied scenery to be found near Rochdale."—Extract from *Rochdale Observer.*

Irish Branch.

THE Irish Branch of the British Dental Association held a meeting on Friday evening, May 21, in the Union Buildings, Queen's College, Belfast; Mr. JOHN J. ANDREW, President, occupied the chair, and the following members were also present: Messrs. R. Theodore Stack (Dublin), Wm. McStay, W. H. Elwood (Belfast), K. O'Duffy (Dublin), Herbert Williams (Londonderry), Stenstone Bishop (Dublin), W. J. Bowden (Belfast), J. A. Biggs (Glasgow), George J. Goldie (Dublin), Chas. M. Cunningham (Belfast), and G. M. P. Murray (Hon. Sec.). Mr. E. Stack, F.R.C.S.I., and Mr. J. Gordon Biggs were present in the capacity of visitors.

The minutes of the last meeting were read and confirmed.

The CHAIRMAN inquired if there were any incidents of practice to be brought before the meeting.

Mr. WILLIAMS said he had a case of a girl, aged 13, who had a very pronounced protrusion of the upper teeth. The eldest brother, whom he had treated, was not as bad as his sister. He was treated very quickly, but he (Mr. Williams) was in some doubt regarding the little girl. He thought that in addition to the upper teeth requiring to go back that the lower teeth wanted pushing forward. There was a certain amount of irregularity about the lower teeth. The protrusion in each case resulted from the lower incisor teeth biting into the gum behind the upper incisor teeth. If possible, he thought that the lower teeth wanted pushing forward as well as the upper going back. They would see by the model which he had brought with him that the patient's bite was now well open. That was the case as it stood at present, and he would be very glad to get advice on the matter. He might mention that the boy, after being treated, remained away six months at school, and came back with his bite well open, and the teeth in good position. It was distinctly a case of heredity.

The CHAIRMAN remarked that they had had a very interesting case brought before them by Mr. Williams.

Mr. WILLIAMS said that they would see by the models that the case showed very pronounced protrusion. The incisor teeth were biting very hard into the gum behind the upper teeth.

The HON. SECRETARY said it appeared to him that the plan would be to bring the lower teeth back a little bit, rather than bring them forward. Bringing them forward would, he thought, aggravate the tendency of the lower teeth to bite on the superior incisors.

Mr. O'DUFFY said that a very essential point was to keep the lower teeth from striking against the upper ones. The treatment which Mr. Williams had applied was, perhaps, not only the most efficient but the only possible treatment that would be effective. He might say that he had been in the habit of putting on plain vulcanite to reduce the height of the lower incisors. He had done that successfully in many cases.

Mr. CUNNINGHAM asked if there was any objection to using vulcanite?

Mr. WILLIAMS replied that he had a decided objection to vulcanite in cases where the treatment was likely to be prolonged. There was less danger of the teeth decaying with metal.

Mr. BIGGS said he had had a number of similar cases and he had a plate which would show one of the methods with which he had been very successful indeed. In the case under consideration he did not think that the total restoration of the features could be achieved by the mere pushing in of the uppers. He believed Mr. Williams had hit on a very good method and that he did not require any hints from them.

Mr. THEODORE STACK showed some ingenious appliances which he used in his practice, and said that regarding root treatment anything that assisted them in keeping their instruments clean would be perhaps considered by the Branch worth mentioning. Mr. Stack then explained the construction of an ingenious little spirit lamp which he explained he had found to be of great advantage to him in his work.

Mr. O'Duffy afterwards handed round a specimen of fractured tooth, and Mr. Cunningham gave an interesting account of his treatment of a cleft palate.

Dr. Stack (Belfast) said he had treated this patient for a hare lip, and so far the result had been very good. However, as well as the lip he found that the patient had a very bad cleft palate, which was a case that he did not think suitable for surgical interference. He might add that the people were immensely satisfied with the result of Mr. Cunningham's treatment, and the man's power of speech had very greatly improved.

Mr. Biggs afterwards explained the circumstances of a case which he had treated for the restoration of speech.

The President then delivered his Inaugural Address. He said :—

I have to thank you for the great honour you have done me in electing me as your president for the ensuing year ; at the same time to ask your indulgence in trying to fulfil the office, coming, as I do, after the able men we have had as presidents of our branch. I hope at the end of my term of office we may have grown stronger in number and otherwise. I am sorry to see so many of our younger men who are coming up around and amongst us, who should be our help and strength, keeping away. Why, I cannot tell, for looking at it from all sides I think the best thing anyone can do is to join the ranks of the British Dental Association and become one of us, at the same time doing himself the benefit and honour of being a member of the greatest recognised institution in the dental profession.

This year our branch has rather a large task set before it in having the annual British Dental Association meeting in August. I hope we may manage to give our brethren a right royal welcome, and to show them that we are pleased to have them with us ; and that in the little Green Isle we are not so far behind in many things. If we each and all put our shoulder to the wheel, our meeting in August will be a great success. We have one amongst us at the head, Dr. Stack, whom we all love and recognise as the right man in the right place ; and we all wish that he may be long spared to us and to the profession. All our meetings of the British Dental Association Branches set forth various phases, scientific, practical and politic, one and all of them being for the good and advancement of our profession. Each of us has some little part to do, which let us do as well as we can. Some men have minds of a practical kind, pure and simple ; these are the men who go in for inventing and improving our methods of doing work of various kinds. Others, again, have minds of a scientific type, who think out cause and effect, and work at some of the deeper problems of the science of our art. Both of these are necessary, and possibly the man who has an easy-going mind gets, through means of both, the necessary pabulum to carry him fairly well through life, doing, perhaps, as much good as any to the general run of mankind. We have had several brilliant men who are now gone ; and we still have a few amongst us to whom we have all looked up, and still look with much respect and esteem, and wish we were more like them, and, in our own way, aim to imitate. During the quarter of a century that I have been in our ranks I have seen many changes. Great strides have been made in all branches, and greatly improved methods and appliances have been invented. I remember what I believe was one of the earliest of the dental engines coming to our country from America, which, though one is sorry to say it, has been the great home of invention for many of our appliances ; a rather crude machine it was, and what we should now consider a cumbersome thing. I do not suppose there has, perhaps, been anything in connection with our work which has passed through so many modifications as that engine. The man who does a lot of operating and has not used a motor of some sort to drive his burrs, does not know the relief it gives ; in fact, it makes life a different thing. I myself, when using the old foot-engine, used to be quite used up at the end of a fair day's work ; standing on one leg and using the other to drive. Now with my Kirby's electrical motor I have the full use of both my legs and feet to stand on and steady myself ; all my energies are directed to what I am doing in the mouth ; with plenty of power, easily controlled and applied ; at the end of the day one feels as fresh as paint. I have persuaded several of my friends to go in for similar power, and one and all say they could not have believed the relief it is and the difference it makes. The advice I give you all is to go in for a motor of some sort to drive your engine, and you will thank me when you find the ease you get. I wonder how some of us would feel if we had to go back to the old method of preparing all our cavities by means of the hand-burrs and excavators ; personally I would not at all like this, in fact, would rather not. I am of opinion that many men are much too economical in the use of *new burrs* in their work ; it may be extravagant perhaps to use them, but one is repaid by the gratitude of our patient, and the rapidity with which the work is done.

Mr. BIGGS said the President's statement had, he was sure, given every one of them very great pleasure and satisfaction. The President's remarks were not, of course, open to discussion, nor did he wish to discuss them in any way. He wished only to casually remark that he had been somewhat misled in regard to what he called "an

American invention." The fact of the matter was Americans were clever people, but they did not own the dental engine. The dental engine was a Scotch invention, and the inventor was Mr. Nasmyth, of steam-hammer fame. It was afterwards taken up and improved, and it was subsequently by the Americans still further improved. They were grateful to the Americans for their improvements, but they had now taken to the motor, and he would strongly advise any dentist who had not got a motor to get one at the earliest possible moment. There was no doubt that a man got through with his work far more quickly and more successfully by using good sharp instruments. He thanked their President very heartily for the kind remarks he had made and for the pleasure which he had afforded them by his short address.

Mr. C. M. CUNNINGHAM then delivered an interesting and instructive address on "The Advantages which may be obtained by mixing Phosphate Cement with other materials." Phosphate cements had, he said, proved themselves so absolutely indispensable in daily practice that he thought the slightest improvement that could be noted in their use was worthy of being mentioned. He could not pretend to present them with any valuable scientific data, but he had made a few experiments and observations from actual practice, extending over a period of some seven or eight years, which gave, he thought, a certain value to the suggestions which he was about to place before them. If they mixed phosphate cement, broke it in two and examined it by a magnifier, they would find the substance of the cement exceedingly porous, and it occurred to him that if they took this crystalloid substance and mixed it with a colloid substance, they would check this porosity. He had tried an experiment by mixing Ash's phosphate cement with a mastich which he happened to have by him. It was a mastich made by Hallam. It was called india-rubber mastich, but it was certainly nothing of the kind. He judged from its general appearance and from the way it worked that it was simply one of the ordinary gum mastichs, but it was a particularly good mastich, and he was very much struck in using it with the fact that directly it came in contact with the saliva it formed a very hard coating, and he had seen it in two or three weeks after an operation presenting a perfectly hard exterior and being almost impermeable to the saliva. He therefore thought it might be a good plan to mix this mastich with the phosphate cement. He did so, placed it in a quantity of red ink, and at the end of twenty-four hours he broke the piece of cement across and found that the red ink had barely permeated the substance. Having got that rough result on mere theoretical grounds, he argued that if he could make a good solution of gutta percha and mix it with the phosphate cement, he would get an ideal stopping impermeable to the fluids of the mouth, and with that end in view he made a solution of native gutta percha, mixed it with the cement, gave it the usual coating, and put it into red ink.

When the phosphate cement had been put into red ink twenty-four hours it had not been permeated in the slightest degree by the colouring fluid. He then proceeded to test this material in the mouth, but after a very short time he found that the experiment had broken down in practice. He could not claim to have discovered the ideal material he was in search of. He would now give them his results in connection with the ordinary cement and Hallam's mastich, and explain how he used it. He found that with the ordinary cement stopping it did not make it any harder, and it did not last better in regard to the ordinary mechanical forces of the mouth than the ordinary phosphate stopping, but it certainly lasted as well, and it resisted that peculiar dissolving action which existed in the ordinary stopping down at the margin of the gum. Having explained his method of mixing the substance, he went on to say that he had found, after taking off crowns which had been in the mouth for a long time, that the cement was quite as good as before. Mr. Cunningham next explained how he had succeeded, by taking ordinary phosphate powder without the phosphoric acid and mixing it with Hallam's mastich in making the covering of the nerve dressings perfectly water-tight. He had found that it had also given him the advantage of a perfectly new temporary stopping. The ordinary ones which they used were difficult to use in the case of exposed nerve, but this mixture was so soft that it easily worked into the shape of the cavity. They could get a very good result indeed by mixing it, working it carefully and putting it over the exposed or nearly exposed nerve, and it certainly lasted from six weeks to two months. He had even seen cases which had gone a great deal longer, and when he had come to remove them he had found the surface perfectly hard, sufficiently hard to give a certain amount of resistance where the stopping was not too much exposed to the mechanical forces used in mastication. He had also found it useful in certain cases in stopping children's teeth. In cases where it was impossible to keep the cavities dry he had found this a very valuable resource indeed. He mixed the paste as thick as possible, inserted it into the cavity, and in the course of a few hours through contact with the saliva the stopping became quite hard, and became as good a stopping as one could get under these particular circumstances.

Mr. WILLIAMS remarked that a stopping of ordinary cement was undoubtedly decomposed more or less by the saliva in the mouth. Speaking of crown work, he said that he used to fix his crowns with cement, but was now using gutta percha.

Mr. BIGGS said he had been struck with the candour with which Mr. Cunningham told them of his non-success as well as of his success. He thought that went a great way to help them, far more indeed than many of the successes which they heard of when they did not hear of the failures. He for one felt grateful to Mr. Cunningham for his address.

The HON. SECRETARY said there were several points in connection with this valuable paper. Of course they all recognised that if a perfect cement filling could be procured that it should supersede everything else, as it was the best possible filling they could get. And he was inclined to think that if such a filling were ever to be discovered, it would be in the direction that Mr. Cunningham had gone. Mr. Cunningham had gone very carefully into the matter, and had made a very great advance in the opening up of this unexplored country. Mr. Cunningham told them that he was not aware of the composition of the solution, but he (Mr. Murray) could not help believing from the discussion of his discovery, that gum benzoine very largely entered into it. He had used that and found it very useful as a temporary dressing. It seemed to him that the solution would be well worth trying in connection with phosphate cement. It seemed to have a very soothing action on sensitive dentine. Mr. Cunningham did not tell them what particular cement he used, or whether he experimented with various cements. They all got some very successful cases, and some of them a great many most discouraging cases, but anything which would enable them to keep their cement fillings from being dissolved at the gum margin would be a very valuable aid. It was important to know also that in the case of cements the finest powder should be used, for those cements in which the powder was fine stood much better than those in which the powder was coarse and gritty. He thought Mr. Cunningham might have gone into the subject of the mixing of phosphate cement and amalgam. In certain cases this seemed to answer remarkably well. He had had occasion to use it in shallow cavities where he could not get a secure hold, and it seemed to hold very fast upon an absolutely dry surface. He thought it would be well to try and find whether it would improve this very valuable combination to add to it the colloid substance suggested by Mr. Cunningham.

The CHAIRMAN pointed out that in mixing the powder of the phosphate cement with any of these gum solutions, of course they altered the character of the cement altogether, and the question was whether the powder which they were using was the best or whether they might find a better.

As the paper had been so well threshed out he did not think it was necessary for him to make any further remarks upon it.

Mr. CUNNINGHAM, in replying to the observations of the various speakers, said with regard to the necessity of keeping the cavity dry one of the advantages of this temporary stopping was that it was not necessary; there was no harm in keeping it dry, but even in the case of restive children where it was impossible to keep the cavity dry it was almost an advantage to have the cavity damp or wet, because the saliva entered into combination with the temporary stopping and rather increased its hardness. With regard to his experiments, he had mentioned his failures simply because he had seen those things recommended in their journals. Of course his failures might have been due to some particular failure or defect in his materials, and in this connection he might point out that in the course of their investigations and experiments if they began to change their materials they might fail to attain the definite results that they wished, so that he had kept close to one or two materials, had tried them in several cases and carefully refrained from talking on the subject until he was able to speak after six or seven years' experience. There was, of course, a great difficulty in the manipulation, and that difficulty was experienced even after a great deal of practice. He had never made any experiments in the preparation of the solution itself. He had great hopes that by bringing this matter up he might induce some other members of the branch, who had greater knowledge and experience of the subject than himself, to give them the benefit of that knowledge and experience, and he was very much obliged to Mr. Murray for his suggestions. With regard to the mixing of cement with amalgam and other materials, he could not say that his experiments in this direction had obtained very happy results, but that might have been due to some defect in his manipulation.

Mr. THEODORE STACK afterwards dealt with the advantages derivable from the application of the Röntgen Rays in connection with dental practice. He prefaced his remarks with the assertion that when he first heard of the Röntgen Rays as an aid to dental treatment he set it down as something of the nature of charlatanism. They had had examples in their profession of the charlatanic use of certain methods of practice in bridge work, crown work, &c., but he thought it was admitted that there was a more extensive field for crown work than was thought of years ago. Although one might be prejudiced against a certain discovery and its possible utility in a particular direction, he did not think it was wise to throw it aside without some experiment or trial as regards its merits, and that was the view which he held in regard to the "X" Rays. Now it was quite true that there was a certain amount of danger associated with the application of the Rays to certain portions of the body for the purposes of medical discovery, but that danger arose from the necessity for a prolonged exposure. Some very serious results had been occasioned by exposures of one hour or more, but in the case of the mouth no such danger was possible, because a ten minutes' exposure was quite sufficient in order to get a very nice result for the purpose of effective operation. Mr. Stack proceeded to quote instances where the use of the Röntgen Rays enabled the operator to diagnose the case under treatment in a way that was otherwise absolutely impossible, and exhibited a number of slides in which the Rays defined the presence of foreign bodies in the teeth, and other features which were not discernible to the naked eye, but the knowledge of which materially assisted the dentist in operating on his patient.

Mr. BIGGS conveyed, on behalf of the meeting, an expression of thanks to Mr. Stack for his interesting statement.

The proceedings terminated with a vote of thanks to the President of the Queen's College for the use of the Union Rooms.

Southern Counties Branch.

THE Annual Meeting will be held at the Town Hall, Croydon, on Saturday, June 19, 1897.

11.30 a.m.—Council Meeting.

1 p.m.—The President-Elect kindly invites all Members of the British Dental Association to lunch with him at the Greyhound Hotel, Croydon.

2 p.m.—General Meeting. Council's Report, 1896-97. Honorary Treasurer's Report. Valedictory Address by J. H. Redman. Inaugural Address by Morgan Hughes. Election of Officers and Council. Papers: "Some Practical Points in Vulcanite Work," by E. Lloyd Williams; "A Case of Anchylosis of the Temporo-Mandibular Joint with Undeveloped Mandibular Bone," by W. H. Dolamore; "A Case of Removal of a Tooth from the Antrum," by E. H. Field.

4 p.m.—The President-elect invites the Members to accompany him in a drive through Shirley and Addington Park.

6 p.m.—Dinner at the Greyhound Hotel (Tickets, 7s. 6d. each, exclusive of wine). Evening dress not necessary.

Nominations for the Council and for the election of a Member on to the Representative Board must be sent to the Hon. Secretary before June 15.

The retiring Councillors, Messrs. D. W. Amoore, J. C. Foran, and Walter Harrison, are ineligible for re-election.

Reply Post Cards must be sent to the Hon. Local Secretary, Alderman Rymer, J.P., "Pevensey," Croydon, before June 15.

1, *Sillwood Road*, FRANK V. RICHARDSON,
Brighton. *Hon. Sec.*

Western Counties Branch.

THE Annual Meeting of the above Branch will be held at Exeter, on July 23 and 24. Members willing to give demonstrations or bring forward subjects of interest, are requested to communicate with the Hon. Secretary.

6, *Southernhay*, *Exeter.* T. ARTHUR GOARD.

Eastern Counties Branch.

PRELIMINARY NOTICE.

IT has been decided to hold the Annual Meeting of the above Branch this year early in October, at Norwich, under the Presidency of Mr. Bosworth-Harcourt. Due notice will be given to members.

A. HOPEWELL SMITH, *Hon. Sec.*

Original Communications.

A New Apparatus for Producing Anæsthesia by Means of Nitrous Oxide and Oxygen.*

BY E. HOUGHTON, L.D.S.

I PROPOSE describing briefly the apparatus I have in use, and to point out what I think are the advantages over the one in general use. I will commence with the cylinder. I prefer to use the cylinders manufactured for containing compressed O, as I consider they are better made and have better valves than the ones usually supplied for N_2O.

The cylinder is suspended to a balance with a dial specially arranged to shown the contents of the cylinder at any time. The balance works very simply, all that you need do is to ascertain by weight the contents of the bottles, and put the finger on the dial the figure corresponding to the number of gallons in the cylinder. As the gas becomes exhausted the finger travels backwards, and when it gets to zero your cylinder will be empty if you have made your calculation aright.

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* Read at a meeting of the Midland Branch, held February 20, 1897.

Most makers put on their cylinders the weight of them full and empty, so this need not trouble you much. One advantage of this method is that you need only have two cylinders. One a large one (the one I use contains about 700 gallons), and one small one to use while your large one is being refilled. But the chief advantage is that you will always be working with your own cylinders, you can have them tested regularly, a very necessary proceeding as the capacity of cylinders containing compressed gases for doing damage is very large, and I am surprised that there are so few accidents with N_2O cylinders, as they are very rarely if ever tested after they have left the makers' hands.

The firm I deal with, will not fill any cylinder unless it has been tested by them. A very wise rule, I think.

To the cylinder I attach one of the ordinary high pressure regulators, such as any of you who are accustomed to the optical lantern will be familiar with.

When I am using N_2O alone, I interpose between this regulator and the facepiece, another regulator, a governor to make the delivery of the gas automatic. I have a drawing of this governor, and I will also pass round one with the rubber bellows removed, so that you can see the interior. As you will see by the drawing, the gas enters a small metal chamber with an exit into a larger chamber, surrounded at the sides by a rubber covering bellows-shaped, and a movable top attached to the valve which controls the passage of the gas from the smaller chamber to the larger one. This valve is balanced by springs and controlled by a screw which passes through the top of the wooden case which holds the governor. By turning this screw, you can control the passage of the gas so that it can be delivered to the patient at pressure, or so that it requires motion to open the valve so that the gas will pass through.

When the patient inhales, the cover or roof of the large chamber is drawn downwards, and forces the valve down with it, so opening the exit from the small chamber to the large one. The deeper the inspiration the wider the valve is opened, so that the supply of the gas to the patient is as near automatic as possible.

I have not had much experience with N_2O and O, but I have ventured to apply this method to Hewitt's apparatus. As most of you are aware Hewitt's apparatus consists of two rubber bags of equal capacity connected with a stopcock, which delivers the gases in certain proportions to the facepiece. The successful administration of this mixture depends entirely on both gases being delivered at the same pressure to the stopcock as the delivery depends not so much on the size of the orifice the gas has to pass through, as on the pressure behind it.

I must confess that this is a very difficult problem to solve, and I have not succeeded to my entire satisfaction, I have simply modified the mode of filling the bags on Hewitt's apparatus. I have attached to the cylinders high pressure regulators, and connection with the bags by rubber tubes with ordinary gas taps inserted at the entrance to the bags, with those taps I regulate the passage of the gases into the bags. I use different coloured tubing for the two gases. The advantage over the ordinary apparatus either for N_2O alone, or with the mixture, is that you can have the cylinders out of sight of your patients, you always know whether you have enough gas for a case, and the supply to the facepiece is entirely under the control of the administrator's hands. I will say nothing as to the advantage of the mixture of the two gases, as that is a subject too wide to discuss without formal notice is given, and I have not had sufficient experience in its use to justify me in saying anything about it.

My aim has been to simplify and make more exact the apparatus which we use, and it is only by bringing what we think an improvement to the notice of others, that we find out their imperfections. I personally have no pecuniary interest in the manufacture of this apparatus, the improvements have been worked out by the manager of the Manchester Brinn Oxygen Company. I made suggestions to him of what I thought was required, and he very kindly helped me through with my experiment. They intend putting it on the market.

A Case of Superior Protrusion treated by Means of Angle's Appliance.

By LOUIS JEFFERY, L.D.S.Eng.

Undue prominence of the superior incisors is the cause, perhaps, of more unsightliness than any other irregularity of the teeth we are called upon to rectify, and it is a deformity the treatment of which taxes our ingenuity to the utmost. Who amongst us has not been worried, when treating such cases by means of the usual plate and piano wire, by the plate springing away from the palate, perhaps by reason of the shallowness of the back teeth not affording sufficient grip to the plate; and it was partly due to such being the condition that I was led to adopt Angle's method in the case illustrated.

The lower incisors, at time of commencing treatment, bit into the palate a good quarter of an inch behind the uppers, but so far as I could judge the lower jaw appeared normal both in size and shape, the irregularity being confined entirely to the upper, the patient's appearance at the time (August 29 last) being well shown in fig. 1, and the position of the teeth in figs. 4 and 6.

In considering the treatment best suited to the case I was guided by the fact that the patient lived at a considerable distance, so could not come to me often, and also that the irregularity being rather extensive, I feared that if I used a plate it was likely that the molars and bicuspids might travel forwards and so lessen the space gained by the extraction of the first bicuspid (this took place to some extent with the appliance used, as can be seen in figs. 3 and 4).

I therefore decided to use occipital pressure to bring the teeth back, and fixed upon Dr. Angle's No. 2 set of appliances as being best adapted to that end. This set consists as is well known, of a traction bar connected by strong elastics at each end to a skull cap, and the pressure thus gained being transmitted by a socket joint to a wire arch carried round the upper teeth, and sliding at each end into tubes fixed to anchor bands on the molars—this arch being kept back during the day by means of rubber rings tied to the arch well forward and slipped over the molar tubes at back; the arched wire being prevented from slipping up by notched German silver bands cemented on to the central incisors, the skull cap being worn only at night, or when patient can keep at home.

After the use of this apparatus for two months the incisors appeared longer than at first, owing to their being brought into a more vertical position, and the front of the mouth began to present a very flattened appearance. I then fitted bands on each canine, each having a hook at labio-distal angle, and attached rubber rings from these to behind molar tubes, in order to bring canines back more rapidly. The skull cap had hitherto been worn as it appears in most illustrations, the two elastics on each side being on either side of the ear. These were readjusted, one above the ear and the other in an almost vertical position, the intention being to force the incisors upwards, into their sockets—the cap now being worn on top of the head instead of at the back, as before. As the pressure was now more directly upwards there was need of something to prevent the wire arch slipping up and injuring the gum, so opposite each incisor a wire was soldered to the arch and bent over the cutting edge of the tooth. After these alterations the case went on satisfactorily to a conclusion, the final photographs and models being taken on April 29 (figs. 2, 3 and 5), the impression being taken without removing the anchor bands on the molars. All that was now necessary was to greatly lessen the tension on the traction bar—which I directed to be used at night for twelve months—and to ligature the wire arch to the molar bands in place of rubber rings; the canine bands and rings had been dispensed with previously. There appears to be no family history of any such irregularity, so I hope after twelve months to find no need to keep on any appliance, although, even if there should be, the apparatus is so small in the mouth as not to cause the slightest inconvenience, which could not be said of a vulcanite retention plate; and when one considers that such work is of necessity carried out at a period when there is much work thrown on the digestive organs, the less interference with the functions of the teeth the better.

The face of the little patient has been much broadened by the treatment, and the nose in particular has gained by being straightened.

Legal Intelligence.

The British Dental Association *v.* Emslie.

Justiciary Appeal Court.—A sitting of this Court was held on June 8, the Lord Justice-Clerk and Lords Trayner and Wellwood on the bench.

The first case was an appeal by Alexander Emslie from a decision of Sheriff Orphoot, in the Sheriff Court of the Lothians and Peebles, in a complaint by W. B. Paterson, London, F.R.C.S.E., and L.D.S., Honorary Secretary of the British Dental Association, against the appellant. The cause originated by way of complaint under the Summary Jurisdiction (Scotland) Acts, 1864 and 1881. The complaint charged the appellant with having contravened the third section of "the Dentists Act, 1878," in so far as not being a person registered under that Act, and not being a legally qualified medical practitioner, he had taken or used a name, title, addition or description implying that he was a person specially qualified to practise dentistry by one or other or all of the following methods—namely, that since October, 1896, he had displayed a sign-board outside of the premises occupied by him at No. 1, Rankeillor Street, with the words "American Dentistry, A. Emslie," thereon; that he had since that date a brass plate affixed to the railing outside the premises with the words "American Dentistry, A. Emslie;" that he had a brass plate affixed to the door of the house with the words "Dental Office" thereon; and that he exhibited a diploma purporting to be granted by "the Dental University of New York, authorised by the State Legislature, conferring on Alexander Emslie the degree of Master in Dental Surgery." The Sheriff convicted the appellant of the charge. The principal objection urged by the appellant was as to the relevancy of the charge. Mr. Jameson, for the respondent, maintained that the title "American Dentistry, A. Emslie" implied that Mr. Emslie was specially qualified to practise American dentistry. Mr. Morison, for the appellant, argued that the title referred to only meant the place where American dentistry was carried on.

Their Lordships made avizandum with the case.—*The Edinburgh Evening Dispatch.*

The Queen *v.* The General Medical Council.

In this case, which came before Mr. Justice Hawkins and Mr. Justice Wright in the High Court of Justice, Queen's Bench Division, on May 7, a rule *nisi* for a *mandamus* had been obtained by the applicant, Mr. Isidore Spero, against the General Medical Council, commanding them to show cause why they should not place the name of the applicant upon the Dentists' Register.

Mr. Muir Mackenzie, according to the report in the *Times*, showed cause against the rule; Mr. Willes Chitty appeared in support of the rule; and Mr. R. W. Turner held a watching brief for the British Dental Association. The Dentists Act, 1878, Sect. 6, provides that "any person who (*a*) is a licentiate in dental surgery or dentistry of any of the medical authorities; or (*b*) is entitled as hereinafter mentioned to be registered as a foreign or colonial dentist; or (*c*) is at the passing of this Act *bona fide* engaged in the practice of dentistry or dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, shall be entitled to be registered under the Act." Section 7 provides that a person shall not be registered under the Act under Subsection C of Section 6, unless he produces or transmits to the Registrar before August 1, 1879, information of his name and address, and a declaration signed by him in the form provided in the schedule of the Act, or to the like effect. Section 37 provided that "any person who has been articled as a pupil, and has paid a premium to a dental practitioner entitled to be registered under the Act, in consideration of receiving from such practitioner a complete dental education, shall, if his articles expire before January 1, 1880, be entitled to be registered under the Act as though they had been in *bona fide* practice before the passing of the Act." The applicant was a person whose articles were current in July, 1878, when the Act was passed. His term commenced in April, 1875, and was for three and a half years, thus expiring in October, 1878. He paid £30 premium to a dentist entitled to be registered under the Act, for which he was to receive a complete dental education. He did not apply to be registered before August 1st, 1879, and it was not till 1888 that his application was received. It was refused upon the ground that the applicant failed to make the declaration required by Section 7 within the time mentioned, that is to say, before August 1, 1879. It was contended in support of the rule that Section 7 could not have been intended to apply to persons applying to be registered under Section 37, because that would have involved that in some cases pupils would have been entitled to be registered before they were out of their pupilage. It was further pointed out that the form provided in the schedule was not worded in such a way as to be applicable in the case of persons applying under Section 37. Mr. Justice Hawkins, in discharging the rule, said that the person entitled to be registered under Section 37 was entitled to be registered "as though he had been in *bona fide* practice before the passing of the Act." There was no reason, therefore, why such a person should not be under the same obligation to make a declaration under Section 7. The objection relating to the wording of the form set out in the Schedule was not a good one because the declaration was to be made in the form provided, "or to the like effect." The form could easily be varied so as to make it suitable for the case of a pupil.

Mr. Justice Wright said that he was of the same opinion, but he reserved the point as to obligation of pupils whose articles did not expire till after August 1, 1879.

Orme *v.* Messrs. Eskells (Limited.)

QUEEN'S BENCH DIVISION.—Before Mr. Justice Hawkins and a Special Jury.

THIS was an action in which the plaintiff claimed damages in respect of what she had suffered in consequence of an operation in dentistry having been improperly performed upon her. The defendants denied all the allegations in the plaintiff's statement of claim, and they counterclaimed £2 7s. as a balance due in respect of their professional services. The plaintiff conducted her case in person; and Mr. Colam was for the defendants.

The plaintiff, Miss Ida Orme, was an American, and was also a public singer and a song writer, and the defendants carried on the business of dentists in the Strand. The case of the plaintiff was that, in October, 1895, she went to the defendants in reference to three of her front teeth. These teeth were cut off, and enamel teeth upon platinum pivots were placed upon the stumps of the natural teeth, and they were fixed with the assistance of a gold plate. For a time everything seemed to be satisfactory; but some six months after, whilst two of the teeth remained in their proper positions, the remaining one was found to be out of position, probably, according to the case for the plaintiff, by the pressure of the tongue upon it. The plaintiff consequently went again to the defendants to have the third tooth looked after. Her case was that the stump of the tooth was so dealt with that it was broken up, and thus the plaintiff was deprived of a front tooth, which, it was said, was a very serious thing to a public singer. She also complained that she had, in consequence of what had happened, endured very great pain and mental suffering, and had also been hindered in carrying on her professional business. In the course of the case the defendants were referred to at times as "Eskell," and at other times as "Paget."

Mr. COLAM said that the proper name was "Eskell Paget;" but it was an old family name under which the defendants traded.

Miss ORME said that she went to the defendants' firm in October, 1895. She arranged to pay £7 7s. to have three teeth seen to, and paid part of the money. They sent a mere boy, scarcely 23 or 24 years of age, to perform the operation. It was very painful, and, she averred, unskilfully done. In cross-examination, she admitted writing to the defendants, "The teeth are all lovely, thanks to the boy dentist." She denied that she asked that the tooth should be tapped out with the steel mallet, as she objected to forceps being used.

Mr. J. S. MERTON, solicitor, who had acted for the plaintiff, in his evidence said he had had an interview with the defendants, when they said that no complaint had been made until they asked for the balance of their money. At the same interview Mr. Paget produced to him a letter written by Miss Orme, which, to put it mildly, was an indiscreet letter, and he told the plaintiff of it, adding that if she persisted in taking action this would come out and would probably injure her character. The letter referred to was read, at the request of the plaintiff, and it commenced :—" My Dear Boy Doctor,—I really cannot come, I am so ill ; but as soon as am able will be in that chair of yours, for to tell the truth, I am quite homesick to see you again."

The PLAINTIFF explained that she did not think this an indiscreet letter ; it simply referred to her being too ill to go and see him. As a matter of fact, she had never shaken hands with the "boy dentist."

Mr. MICHAEL TOOMEY, dentist, stated that the plaintiff went to him on April 10, 1896, and seemed to be suffering very great pain.

For the defence Mr. HENRY LOUIS ESKELL PAGET, a dentist, until recently in business with his brother at Ludgate Hill and Charing Cross, denied that he had been guilty of negligence while operating on the plaintiff.

Mr. Edward Eskell Paget, who superintended the first operation, was also called.

Mr. EDGAR JOSEPH said he was an articled pupil to the Defendant Company when he first treated Miss Orme.

Mr. JUSTICE HAWKINS : Are you the boy dentist?

The WITNESS : Yes, my lord, I was then. This witness also corroborated the statement as to the care taken in attending to the plaintiff's teeth, and that she made no complaints.

Other witnesses were examined for the defence, to show that there had been no want of skill or care in performing the operations. It was said that the root of the tooth in question had probably been broken from a blow, or from the tooth having bitten against some hard substance. It was also said that what was about to be done was fully explained to the plaintiff, and everything was done with her full consent, and that the best of care and skill were exercised. Further, it was said that the plaintiff after the operation shook hands with the operator, and thanked him and complimented him upon having done what he had without having hurt her.

The jury, without leaving the box, gave a verdict for the defendants.

Mr. Colam, in answer to the judge, said that the defendants would not press for costs.

Mr. Justice Hawkins: Then there will be judgment for the defendants, but, by consent, without costs.

Mr. Colam: There is a counterclaim.

Mr. Justice Hawkins: You had better let that go; let it be struck out. He also granted a certificate for a special jury.

Mr. Colam said that the lady's tooth was in the possession of the defendants: he did not know whether she wished to have it, because they did not want to have another action about that.

The Plaintiff said that she did not wish to have it. — *The Standard.*

Prosecution under the Dentists Act.

At the Brighton Bench on May 18, "Moss Harris," of 99, Western Road, Brighton, was summoned for using the title of "dentist," contrary to the Dentists Act, 1878. The case had been adjourned from the 6th. ult. Mr. W. H. Blaber, solicitor (of the firm of Blaber and Watson, 12, Great Castle Street, Oxford Circus, W.), again appeared on behalf of the prosecution, and Mr. Bertram Jacobs defended. Mr. Blaber pointed out that the case had been adjourned owing to there being a case in the High Court, in which application was made by several gentlemen for a mandamus to compel the Medical Council to place their names on the Dentists' Register. That case was heard on Friday week last, and the mandamus was then refused. He understood it was proposed to call further evidence for the defence, but he pointed out that the case was thoroughly gone into on January 19, when it was first before the Court, and that after hearing the evidence the Stipendiary said he was perfectly satisfied. He (Mr. Blaber) thought it would be somewhat unreasonable to re-open the case after this lapse of time, and on behalf of the prosecution strongly objected to any further evidence being given. Mr. Clydesdale, who appeared for Mr. Harris on that occasion, said he was unable to deny there had been a technical offence, and the only question was as to the amount of the penalty. Mr. Jacobs said at the first hearing application was made for process against certain witnesses for perjury, but that was refused by the Bench, who thought the matter should remain over until the conclusion of the case in the High Court. That left them in this position, that the only way to nullify the evidence which had been given was to call rebutting evidence, and that was what he proposed to do. He added that an admission by counsel in a criminal offence had no validity whatever. The Stipendiary: But supposing counsel pleads guilty on behalf of a client, and the client stands by and says nothing? Mr. Jacobs: That is an extreme case; but even then I say an admission has no validity. He hardly liked to go behind the scenes in this matter, but he had only been instructed quite recently. Mr. Clydesdale was instructed on the spur of the moment, and the case for the defendants had not been got up properly at all. At any rate defendant could hardly anticipate such evidence as was produced —evidence absolutely false. It was hardly possible for counsel in Court to hear from Mr. Harris, who was rather deaf, whether the evidence was true or not; and Mr. Clydesdale took it that such barefaced falsehoods were not likely to be told. The charge was not that of a dentist, he further said, but of holding himself out as a registered dentist. The Stipendiary said he had no doubt the case was finally closed, but he would be very unwilling to shut out any evidence. Mr. Blaber said the only reason for an adjournment was that the case in the High Court would probably influence the Bench as to the amount of the penalty. The Stipendiary: Yes, but I think that carries with it the consequence of hearing further evidence. I will hear the evidence. Mr. Blaber: Of course I am not prepared. I have not got my witnesses here. Charles Gardner, engraver, of 20, Queen's Road, Brighton, was then called. He said he knew Mr. Harris's premises. He supplied a brass plate to Mr. Harris two years ago, and the word "dentist" was not on it. He saw the plate a week ago and the word dentist was not on it then, and there was nothing to indicate that any alteration had been made. He had not observed the plate much between the time when he supplied it and last week. John Marks, of 27, West Street, shop-fitter, said he had fixed a brass plate to Mr. Harris's shop front. He had not noticed the word dentist on the front, but he believed the words "American Dental Institution" were there. John Oliver, 88, Church Road, builder, said he knew Mr. Harris's front. He wrote the blinds produced, in February, 1896. Cross-examined: The words on the blind were precisely the same as when he wrote them. He swore that the word "dentist" was not on the blinds. Harriet Elizabeth Smith, of 193, Ditching Rise, Brighton, said she was a patient of Mr. Harris's. The first time she went to Mr. Harris's establishment was on January 4 last. She did not see either "dentist" or "dental" on the front of the house. Cross-examined: She had not noticed the blinds at all.

Mr. Jacobs said he did not know whether the Bench were satisfied that the word "dentist" or "dental" was not used. He had several other witnesses he would call if they were not. The Stipendiary said he thought it very probable that a mistake might have been made about the words. Mrs. Mary Bowler, of 9, Powis Grove, said she had been a patient of Mr. Harris's for nearly five years. On the 4th January she was in the waiting room, and heard a conversation in the adjoining room between Mr. Harris, a lady whose name was given as Miss Watts, and a gentleman. The conversation was about some teeth, about a deposit, and also about a receipt. Cross-examined: It was quite possible that a lot was said which she did not hear.

Frederick Boulger, of 19, Artillery Street, said he was a dental assistant to Mr. Harris, and worked in a room adjoining the operating room. The door was left partly open, and he always heard the conversation that took place there. It was his business to do so, so that in case of any such prosecution as the present he would be able to give evidence. He remembered a Miss Watts and a Mr. Wood, he believed, coming there on January 4, and heard them talking to Mr. Harris about some teeth, about a deposit, and about a receipt. He had been with Mr. Harris for two years, and during that time neither the word "dentist" or "dental" had been used on the front of the premises. Cross-examined: He had no idea to whom the voices he heard, and to which reference had been made, belonged. As to the medal produced, he did not know whether it was a fact that anyone exhibiting teeth and renting certain stalls in the French Exhibition to which it referred, got a medal. For the defence, Mr. Jacobs stated that Mr. Harris was in practice some years previous to the passing of the Dentists Act of 1878. The main object of the Act was to provide that all practitioners should be duly qualified by reason of having passed through some dental hospital, and having received some diploma by some body qualified to award the same. Provision was, of course, made for those who were in practice at the time of the passing of the Act, that provision being to the effect that if they sent in their names by August 1, 1879, they would be registered. It was quite impossible for all who were then in practice to give in their names by that time, and accordingly, by the 37th Section of the Act, discretion was given to the Medical Council to dispense with examination, and put on the Register any whom they thought deserving. His client did not apply before August 1, 1879, and consequently lost his right to be registered. However, he could have applied to the Council to be registered under their discretionary power, and it is admitted had he done so he would have been entitled to be put on the list. Mr. Blaber: Why didn't he do so?

Mr. Jacobs: Eventually he did apply, and then the Medical Council said: "As far as we can see we should have put you on had you applied in time, but we must draw the line somewhere, we can't be putting people on for ever and ever." In 1892 the Medical Council passed a resolution by which they rescinded their former resolution, and determined that, however deserving a man might be, they could make no exception by putting him on the list. Consequently his client, through a piece of folly on his part, remained to this day unregistered. There was nothing in the Act, however, to prevent a person practising dentistry, though unregistered, so long as he did not use words implying that he was a dental practitioner or a registered dentist. That applied to the theoretical portion of dentistry, and not to the mechanical portion—that of making teeth.

The Stipendiary: You think they can be separated? Mr. Jacobs: I do not think a prosecution can be instituted against any person for making artificial teeth. The Stipendiary: But if he makes them he must fix them and do all that a qualified dentist is required to do. The use of the word "dentist" by him is contested, but it is admitted that he called himself medallist and diplomist on the blind. Is not that a description implying that he was specially qualified to practise dentistry? Mr. Jacobs: No; I submit it shows he is specially qualified to manufacture artificial teeth, especially when you remember the rest of the wording as to the prices of teeth. I submit he was perfectly entitled to show that he was a skilled maker of artificial teeth. The very fact that it is necessary to use words suggesting that he was a qualified dentist is shown by the pains the prosecution have taken to get something very definite in the shape of an admission that he was a dentist or dental practitioner. In fact, the prosecution have given up their whole case practically as to the wording on the blinds and show cases. The Stipendiary: I doubt whether they have gone so far as that. Mr. Jacobs, continuing, said that all that had been shown was that when it was suggested Mr. Harris was a qualified dentist he did not deny the soft impeachment. The witness Baldry had said in his evidence at a previous hearing that when he went in he said to Mr. Harris "Are you Mr. Harris, the dentist?" Mr. Harris replied "Yes." Was that holding himself out as a dentist? He suggested, however, that the witness was telling lies when he said the word dentist was on the show cases, and that he was paid to do it. Mr. Blaber: No. no.

The Society in question (continued Mr. Jacobs) was a Society of theory-fed practitioners, who were jealous of Mr. Harris's success, and especially of his being able to advertise, which they were unable to do. They had got up the prosecution in order to gull the public by suggesting that because a dentist was on the Register he was necessarily more skilled than those who were not. He submitted that whatever evidence there was was prejudiced and perjured. It was not suggested in the summons that he implied he was specially qualified, but that he used the name of dentist, thereby implying that he was registered. It was shown he had not used the word dentist, and he submitted that disposed of the whole case. Mr. Blaber said witness had sworn that they said to Mr. Harris "Of course you are a dentist?" and he replied "Yes." And further, "Of course you are a qualified dentist?" and he again replied "Yes." Therefore he submitted that the summons was sufficient to cover the offence complained of.

The Stipendiary said there must be a conviction. The learned counsel for the defendant made out a very ingenious and proper defence, but he did not dispose of the impression on his (the Stipendiary's) mind, when the case was, as he thought, closed, that the defendant had acted in such a way as to constitute an offence in the meaning of the Act. There was no doubt defendant did take and use the title of "dentist," and in conjunction with a number of other titles which certainly implied that if he was not registered he was specially qualified to practise dentistry. He did not wish to express any opinion as to whether the word "dentist" was or was not in the shop window, but there was no doubt that other words—words amply and strongly calculated to cause anyone to think he did claim for himself the title of dentist and was specially qualified to practise dentistry—were used. Each witness had said he put this question to Mr. Harris—"Are you Mr. Harris, the dentist?" and he replied "Yes." He (the Stipendiary) fully believed he did say it, for it was obvious that if a person practising dentistry were to say "No, I am not," the questioner would immediately walk out of the surgery. An attempt was made to separate the functions of dentistry, but he did not think it was possible to do so. There was no doubt that he had and was now practising dentistry; the only question was whether he had made himself liable under this action. He (the Stipendiary) thought he had done so, and he saw no reason why he should distinguish between this case and those that were decided at the time when this first came on.

Mr. Jacobs said Mr. Harris was entitled, if he had applied in time, to be placed on the Register, and the defendants in the other cases were not.

A fine of £5 and costs was inflicted, four guineas being allowed as solicitor's costs; in default 21 days' imprisonment.

Reports of Societies and other Meetings.

General Medical Council.

Wednesday, May 26.

Sir WILLIAM TURNER (in the absence of Sir Richard Quain), in the Chair.

DENTAL EDUCATION AND EXAMINATION.

Mr. BRYANT (Chairman of the Dental Education and Examination Committee): It may be in the recollection of the Council that at the termination of last Session there were four reports on the Qualifying Examinations in Dentistry that were then presented to the Council. Only two, however, were read and discussed; the other two, and the final report on the four, had to be postponed for consideration this year. My duty now is to bring before you the reports of the two

Qualifying Examinations in Dentistry as carried out by the College of Surgeons, England, and the College of Surgeons, Dublin, together with a final report on all four. First I propose to move: "That the report on the inspection of the Qualifying Examinations in Dentistry of the Royal College of Surgeons of England be received and entered as an Appendix to the Minutes."

Mr. Brudenell Carter: I will second that.

Mr. Bryant: In this report, of course, there is a great deal, and I do not mean to trouble the Council with reading it *in extenso*, because it will be referred to in the final report on the four bodies. I would suggest that the members of the Council should reserve any criticisms they may have to make until I come to the final report, when the reports will be dealt with as a whole, because you have to deal with two former reports that were entered on the Minutes last Session. In the report upon the Examinations for the Licence in Dental Surgery held by the Royal College of Surgeons, England, you will see the remarks made by the Visitor Inspector (Mr. Charles S. Tomes), and I propose to read them:—

"The general conduct of the Examination, the scope and suitability of the questions asked, and the methods of marking adopted, leave little to be desired, and I have hardly any suggestion to make for their amendment. With regard to the question of marking, it might, perhaps, be better to emphasise more strongly the opinion of the Examiners where Candidates do very badly, and to make more use of the power to reject a Candidate upon any one portion of his examination in which he is very deficient, which at present seems to be but rarely done. But, on the other hand, it is very unusual for a Candidate to do very badly in one section of the Examination and yet to do sufficiently well elsewhere to make up his deficiency of marks, so that I did not observe a single instance of a Candidate passing whom I personally should have been tempted to reject on any one part of his examination. Thus, against one I had noted in his oral examination in General Surgery, 'Very poor all round, ought to be rejected.' He was given the minimum, but failed upon his total marks. It would, indeed, have hardly been worth while to say anything upon this subject were it not that the marks given for Practical Dental work being, quite rightly, higher than those for any other part of the examination, it may be possible for a Candidate, who has done exceedingly well in this section, to pass, notwithstanding his showing gross ignorance in some other section of his work. Conversely, it has been known to happen, though but very rarely, that a Candidate, who should certainly have been rejected upon his Practical Examination, has made up his deficiency of marks by quite exceptional excellence in his theoretical work. At the Royal College of Surgeons of England there is but one Examination."

I will omit what the Visitor Inspector then says, because he was not aware at that time that the Rules of the Royal College of Surgeons were being altered; and so he is here criticising the old Rules upon which the Examination was conducted. Since that date the Examinations have been conducted in another way; so that his criticisms, although they are very satisfactory (and it would give me pleasure to read them) are really hardly applicable, because they are applicable only to a condition of things that does not now exist.

Dr. HERON WATSON: He says so in the next paragraph.

Mr. BRYANT: That will also explain the "Remarks by the Body inspected":—"On July 15, 1896, the Council of the Royal College of Surgeons of England informed the MEDICAL COUNCIL that it did not appear to them that the *Report* of the Inspector on the Dental Examinations called for any *Remarks* on their part, as the only recommendation made by the Inspector for any change had been met by the new Regulations for the Dental Diploma, approved and adopted by the Council of the Royal College of Surgeons, on July 9, 1896."

We now come to the Report by the Dental Education and Examination Committee. It is as follows:—"The Inspector points out that before the Dentists Act was passed, in 1878, the Royal College of Surgeons of England granted a Licence in Dental Surgery so early as 1860, and that prior to that date no special qualification in Dental Surgery had ever been granted by any Licensing Body in Great Britain. He reports also that since 1860, 1,094 Diplomas have been conferred; and that at the present time 712 Licentiates of the English College appear upon the Dentists' Register; this number constituting half of the Dentists registered as possessing a special

Dental qualification, and 14·4 per cent. of the total number of Dentists admitted to the Register; the remaining 76·2 per cent. of Registered Dentists representing those admitted on the ground of their having been in practice prior to the passing of the Act of 1878. He likewise notes that of the 712 Dentists Registered as holding a Licence of the English College, 94, or 13·2 per cent., possess full Medical or Surgical qualifications. He states that for the last five years the average number of Dental Candidates has been over 100 per annum, and of these about one-third have been referred. Every Candidate is examined under a number, and every part of the Examination is conducted in the presence of two Examiners. No Examiner has any cognisance of the marks given by other Examiners at another table. The marks obtained at each table are handed in to the Secretary, who enters them in a book, and the Candidate stands or falls absolutely upon the addition of his marks—33 being the minimum required out of a maximum of 55. Every rejected Candidate is required to produce, before his admission to re-examination, a certificate of three months' additional study at a General Hospital and a Special Dental Hospital. The Inspector reports (pp. 20-22) that the general conduct of the Examination, the scope and suitability of the questions asked, and the method of marking adopted, are not only sufficient but leave very little to be desired. He thinks, however, that the Examiners should emphasise more strongly than they do their opinion when Candidates do very badly at any one portion of their Examination in which they are very deficient. He recommends that instead of the single Examination which is now held, the Examination should be divided, and that Candidates should be examined in Elementary Chemistry and Metallurgy as applied to Dental Art, some understanding of these subjects being quite essential for the intelligent practice of Dental Surgery. The Council of the Royal College of Surgeons of England have no remarks to give to the Report of the Inspector, which they regard as satisfactory, but forward a copy of their new Regulations for the Dental Diploma, which were approved and adopted by the Council of the College on July 9, 1896, in which it will be seen that the Recommendations contained in the Inspector's Report have been met. It should be noted that the new Regulations adopted by the College on July 9 were the outcome of Recommendations of the Board of Examiners in Dental Surgery, considered in May, 1895, and were not the result of the Visitor's Inspection, although the Council were pleased to find that they coincided with those of the Inspector. The Committee regard this *report* as a valuable one, and ask the Council to bestow upon it their close attention. The alterations which it contains in both the curriculum and course of examination appear to be in the right direction, and your Committee believe that many are worthy of adoption.

THOMAS BRYANT,
Chairman.

That Report was written on November 26, 1896, to present to the last meeting of the Council, but some of you will remember that before the Council separated, an instruction was given that these reports should be handed back to the Committee, with a view to seeing if a fresh arrangement might not be made in the curriculum, because the original curriculum laid down by this Council had been adopted and followed up to the present time.

The motion was then put from the chair and carried.

Mr. BRYANT: I now rise to move, "That the Report on the Inspection of the Qualifying Examinations in Dentistry of the Royal College of Surgeons in Ireland be received and entered as an appendix to the minutes."

Mr. BRUDENELL CARTER seconded the motion.

Mr. BRYANT: I shall deal with this report in the same way as I dealt with the last; I will not read the whole of it. There is a good deal in it well worthy of perusal, and I trust that the members of the Council have read it. The remarks of the Inspector are as follows:—"As to the First Professional Examination I have none to offer. As to the Second, I have already mentioned that the Practical Mechanical might be advantageously extended, and the Oral associated with it omitted as a separate part of the Examination. A somewhat wider question, however, arises. The *sine curriculo* Candidate does not have to pass the First Professional Examination at all, but is at once admitted to the Second, which is eminently practical (even as to the questions asked at the Oral), and appears to me to be rather too much modelled upon the probable acquirements of the *sine curriculo*

Candidate. Moreover, when once he has obtained his Diploma, he is not ear-marked in any way, but is indistinguishable from the *cum curriculo* Candidate, from whom attainments of a higher order (*i.e.*, a knowledge of the subjects of the First Professional Examination) are demanded. This seems barely fair to the *cum curriculo* Candidates, who have so far been very few, as only 14 (2·6 per cent. of the whole number), have obtained the diploma. As an argument in favour of the present regulation, it is urged that the *sine curriculo* Candidate receives no further legal rights than he already possesses, and does come under the control of the College in the conduct of his practice as regards advertising, &c. Moreover, that if required to pass both Primary and Second Professional Examinations, he would probably not come up at all, and so would not come within the control of the College. But it is a matter for serious consideration whether, if the *sine curriculo* Candidate is to be admitted for any longer period, he should be granted a diploma upon such much easier terms than the *cum curriculo* Candidate. Very little knowledge of Dental Anatomy, none of the Anatomy of the Head and Neck, and practically none of the Surgery of the mouth, was required of the *sine curriculo* Candidates; and whilst I regard the Examination test as applied to the *cum curriculo* Candidate as fully satisfactory, as he has to pass both Primary and Final Professional Examinations, I have some doubts about the adequacy of that to which the *sine curriculo* Candidate is subjected. With regard to the general question of methods of marking, the more I have seen of the percentage system and its practical application in the making the Candidate pass each subject separately the less I like it. In my judgment it is better to let the Candidate pass by a total aggregate of marks, so that excellence in one direction may cover slight deficiency elsewhere, and thus to enable an examiner to give to a weak Candidate, whom he hesitates to then and there reject, a mark somewhat below the pass proportion, which at present he cannot do fully. Thus a Candidate may be weak in every part of his examination, so that his Examiners would have liked to give him something less than a pass proportion of marks, and yet would have hesitated to reject him absolutely on any single portion or subject. In my own experience I have met with many Candidates who would stand in this position, and who in their total addition of marks would fall far below the pass standard, but who would probably have been passed in separate subjects owing to the hesitation of an Examiner to summarily reject on one subject alone. Such a Candidate will certainly be the better for a further period of study. Of course the power to reject a Candidate upon any one subject, or upon any one part of his Examination, should at the same time be retained; it is also to be remembered that the system in vogue at the Irish College is better than that in which each portion of the Examination (*i.e.* Paper, Oral, and Practical Examination) stand quite alone and separate, in so far that it does give to the Examiner an opportunity of giving in one section of a subject marks less than the pass proportion, without then and there rejecting the Candidate; unless, indeed, it be in the Practical part; and it is quite right that this greater importance should thus be given to the Practical part as being the most searching. My suggestion is therefore that the Candidate (unless rejected summarily upon any part) should pass or fail upon the total aggregate of his marks, retaining, however, the feature, which appears to me a good one, that a deficiency of marks in the Practical portions of the Examination cannot be made up elsewhere." And should this suggestion meet with approval, I think that in the apportionment of marks a preponderance should be given to the Practical Examination in the Final Professional, which lasts a whole day, but which at present carries no more marks than the Paper, nor than the fifteen minutes of Oral Examination. This, however, would only become feasible were a recasting of the general plan effected, in the direction of making the Candidate pass by a total aggregate of marks. And whilst retaining, of course, the power to reject upon either the operative or mechanical portion of the Practical Examination, I would extend to this the system of aggregate marks, by marking the Practicel Examination as one whole.

"CHARLES S. TOMES, M.A., F.R.S."

We now come to the "Remarks by the Body Inspected." I may inform the Council that the whole of this Report, together with the remarks of the Inspector, was sent to the Council of the College for their criticism, so that they had the whole material before them.

"REPLY OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND TO THE REPORT OF THE VISITOR ON THE DENTAL EXAMINATIONS, JUNE, 1896.

"The Report of the Inspector was remitted by the Council of the Royal College of Surgeons to its Dental Examiners for their remarks. The criticisms of the Examiners were duly laid before the Council, and adopted by them as their reply, as follows:—

"'Taking up page 19 of the Report, the Dental Examiners wish to draw attention to the fact that the Oral Examination alluded to in the last paragraph on that page by Mr. Tomes was an examination on Orthodotics, and not in General Mechanics. It was an examination arising out of a case of which the student had been asked to take an impression and to take notes in the earlier part of the day, and it is meant to be more or less parallel to the method of conducting a Clinical Examination in the Medical and Surgical Final Examination. The Candidates were not taken out from their practical test in the work-room to be examined in Orthodotics, and the Dental Examiners cannot agree with Mr. Tomes that it is advisable to take a Candidate away, either from his practical operative work or his practical mechanical work, in order to examine him orally. They think such an interruption may seriously hamper the Candidate in these practical tests. As regards the Examination in Practical Mechanical Dentistry, the Examiners were, as Mr. Tomes states, seriously hampered by the number of Candidates and the unfinished state of the Dental Hospital premises. It has all along been the aim of the College of Surgeons in Ireland to make this mechanical test very thorough, and, in fact, the Irish College has been considerably in advance of the other licensing bodies in this particular; but as the Dental Examiners have not before them the reports of the examinations from London and Edinburgh, they have no means of comparing the examinations recently conducted by these corporations with that at which Mr. Tomes was present here. In referring to the last paragraph but one on page 19, they find it stated that the Candidates were given zinc models and dies to make, bands to make and fit, crowns to strike up, wire to draw down, &c. This covers a good deal of the ground of Mechanical Dentistry, and of course it is impossible at one Examination to ask a

Candidate every detail and method of mechanical work. However, the Examiners are of opinion that the strain on the Candidate is too great when he is kept the whole of the first day, first at the difficult operative work for some four hours, and then some three hours at hard mechanical work, and they suggest, as an amendment to the present arrangement, the following change of times for such examinations :—

Thursday.

9 to 9.45	Candidates are allotted cases of irregularity—they make notes and take an impression of one such case.
10 to 2	Gold filling.
3 to 6	Papers.

Friday.

9 to 10	*Vivâ voce* in Orthodontiæ.
10 to 2	Practical Mechanical Examination.
3	*Vivâ voce* in Dental Surgery and Dental Mechanics.

“ ‘ At the conclusion of this Examination the marks are made up, the result declared, and the successful Candidates sign their names, &c. As regards the question whether Candidates should be admitted *sine curriculo* or not, the Examiners are of opinion that the College of Surgeons is right in adopting the policy of admitting *sine curriculo* Candidates to that Examination. It is suggested by Mr. Tomes in his Report that it is hardly fair to the *cum curriculo* Candidates that these older Dentists should be admitted to the Examination *sine curriculo*. The Examiners are of opinion that in the case of men who are already on the *Register*, and who have the right to practise Dentistry, and who are of considerable standing, or an average of at least ten years' standing, and who have shown their anxiety to join the reputable side of their profession by giving up advertising, the College exercises a wise policy in giving them the opportunity to improve their position. The Examiners believe that this policy of the Irish College, by which it has gained a control over above a tenth part of the legitimate Dentists of the United Kingdom, has done a great deal to advance Dentistry towards becoming a reputable profession. In short, they consider the arguments in favour of continuing this policy far outweigh those for abandoning it.

“ ‘ As regards the suggestions contained on page 23 of the Report, the Examiners think it would be inexpedient to allow a Candidate to make up largely for deficient knowledge in one practical subject by obtaining high marks in a different practical subject.

“ ‘ The Examiners think that the diploma of the College of Surgeons is meant to be a guarantee to the public that the man who has it is able to do for the public either mechanical work or dental operative work; and if this is the meaning that the College attaches to its L.D.S., they think it would be dealing unjustly with the public if it permitted a man to pass who was seriously deficient in a fair knowledge of either of these branches of his profession.

“ ‘ With these considerations before them, and fully agreeing with Mr. Tomes that additional weight should be given to the practical portion of the Examination, the Examiners have agreed to advise the following modification in the marking at the Final Dental Examination :—

Final Dental Examination.

Dental Surgery and Pathology ...	Practical ...	200*
,, ,, ,, ...	Written ...	100
,, ,, ,, ...	Oral ...	100
Dental Mechanics, including Dental Metallurgy,	Practical,	200*
,, ,, ,, ,,	Written	100
,, ,, ,, ,,	Oral	100

“ ‘ A Candidate must (subject to subjoined modification) score at least 50 per cent. in each portion of the Examination marked by an asterisk. He must also obtain an average of at least 50 per cent. in each of the groups indicated by a bracket.

“ ‘ N.B.—In case, however, of a Candidate who obtains *very good* marks in one of the practical subjects while slightly failing in the other, the Examiners shall have power to pass such Candidate, provided his marks do not fall below 45 per cent. in his weak subject.’

“ The Council of the College resolved at its meeting of October 15, that the changes in the time-table and mode of marking suggested by the Examiners be adopted, and that steps be taken to alter the regulations accordingly.

"ROB. H. WOODS, F.R.C.S.,
"*Secretary of Council.*"

Then there is the Report by the Dental Education and Examination Committee, which is as follows:—

"This Examination was instituted in 1878, after the passing of the Dentists Act, and up to the end of 1895, 504 Candidates had been passed out of a total of 629 examined; whereas the Register showed that there were 447 Licentiates of the Irish College of Surgeons at that time in practice, and that only four of those hold additional Medical or Surgical qualifications. The Register also shows that of the 504 Diplomas granted, only fourteen were passed *cum curriculo;* and at the present time any person already on the Dentists' Register, on production of certificates of respectability, of having been five years in practice, and of not having advertised during the past two years, may be admitted to Examination. Ten such persons applied at the Examination held in June, 1896, when the Examination was visited. The Inspector reports that the First Professional Examination was sufficient and quite satisfactory in all respects; it is, however, only applicable to the '*cum curriculo*' Candidates. In the Second Examination the practical part was taken first, as Candidates who fall short in this are not admitted to the papers or to the Oral Examination. The Examination was pronounced sufficient. The Inspector would, however, have liked to have seen the Practical Mechanical Examination extended, and the Oral associated with it omitted as a distinct Examination, but made part of the Practical. As the *sine curriculo* Candidate is exempt from the First Professional Examination, and when passed is indistinguishable from the *cum curriculo* so far as privileges are concerned, the Inspector thinks it is a matter of serious consideration whether, if the '*sine curriculo*' Candidate is to be admitted for any longer period, he should be granted a Diploma upon terms so much easier than the '*cum curriculo*' Candidate—more especially as the Inspector expresses doubt as to the adequacy of the Examination to which the '*sine curriculo*' Candidate is subjected. The Inspector also in this, as his other Reports, finds fault with the system of percentage marking in its practical application in the making of Candidates pass each subject separately, the Examiner hesitating to give a weak Candidate the low marks he may deserve for fear of these marks then and there rejecting him in his subject. He believes it is better to let the Candidate pass by a total aggregate of marks, so that excellence in one direction—and particularly in the Practical—may cover slight deficiency elsewhere. He would, however, retain the power of an Examiner to reject a Candidate upon any one subject or part of a subject. His suggestion is therefore that the Candidate (unless rejected summarily upon any part) should pass or fail upon the total aggregate of his marks, retaining however the feature, which appears to be a good one, that a deficiency of marks in the practical portions of the Examination cannot be made up elsewhere. The Council of the Royal College of Surgeons of Dublin, in their remarks upon the Report of the Inspector, dispute some of his criticisms, and assert that it has all along been the aim of the College to make the Mechanical test very thorough. They admit that the Examination work crowded into one day had better be divided, and have now made arrangements to that effect. The Council believe that they are exercising a wise policy in still admitting *sine curriculo* Candidates to Examination, 'as by so doing they have gained a control over above a tenth part of the legitimate dentists of the United Kingdom, and so advanced dentistry towards becoming a reputable profession.' They consider the arguments in favour of continuing this policy far outweigh those for abandoning it. They agree with the Inspector that additional weight should be given to the Practical portion of the Examination, and have agreed to modify the Final Dental Examination with that object. The Dental Education and Examination Committee cannot fail to see that the Royal College of Surgeons of Ireland, by still admitting *sine curriculo* Candidates to examination, and exempting them from the First Examination, have done their best to neutralise the effect of the Dentists Act of 1878 and to drive dental students to obtain a licence elsewhere. Indeed, since that date only fourteen Candidates have passed *cum curriculo*, whilst 490 have passed *sine curriculo*, and so long as the College continues the system it is hardly likely *cum curriculo* Candidates will apply in any number.

"THOMAS BRYANT,
"*Chairman*."

The motion was then put and carried.

Mr. Bryant: I now rise to propose the adoption of the Final Report upon the Visitation and Examination of the four Bodies—the two Scotch Bodies, the English, and the Irish. I beg to move:—

"That the Report by the Dental Education and Examination Committee on the Qualifying Examinations in Dentistry be received and entered as an Appendix to the Minutes."

Mr. Brudenell Carter seconded the motion.

Mr. Bryant: This Report is the outcome of the whole Visitation of the four Bodies—The Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, and the two I have read with regard to the Royal College of Surgeons, England, and the Royal College of Surgeons, Ireland. Before reading this Report I should like to say that it was written for the Medical Council in December, 1896. It was brought before them, but not considered. It was returned to us with the following instruction:—

"That the subject be remitted to the Dental Education and Examination Committee to consider whether it is desirable in any way to modify the existing Regulations of the Council as to the course of study and examinations to be gone through by the Candidates for Licences in Dental Surgery, and to report thereon to the Council at the May meeting." You will find my Report is divided into two parts. The first part is the Report I brought up in December last year. I did not think it wise to modify that Report, but I thought it better to give an additional Report carrying out the wishes of the Council. I will read the whole of the Reports.

I.—REPORT BY THE DENTAL EDUCATION AND EXAMINATION COMMITTEE, AS PRESENTED TO THE GENERAL MEDICAL COUNCIL, DECEMBER 1, 1896.

The Dentists Act was passed in 1878.

On March 26, 1879, a Report by the Executive Committee on the Qualifications for Registration under this Act was received, entered on the Minutes and adopted by the General Medical Council; and on July 19, 1879, the final Report of the Dental Curriculum Committee of the General Medical Council was adopted.

On November 28, 1894, a Report of the Education Committee on the codification of the existing Regulations applicable to Dental Qualifications was received and entered on the Minutes.

On May 26, 1894, the Council when considering a Report by the Education Committee on the Curriculum for the Licence in Dentistry, agreed to the following resolution, on the Motion of Drs. Tuke and Bruce :—

"That in order that the Council may be assured that the requirements especially dealt with in this Report and other requirements are being fully complied with, they shall, in accordance with Section 22 of the Dentists Act, 1878, appoint an Inspector or Inspectors, whose duty it shall be to visit and report on the Examinations conducted by the Bodies granting Qualifications in Dentistry, with special instructions to examine the schedules and certificates presented by every Candidate, and that it be remitted to the Executive Committee to consider the best way of carrying out the inspection."

On November 26, 1894, the Executive Committee proceeded to consider the above resolution, and resolved :—

"That Mr. C. S. Tomes be deputed to be present at, and report to the Council on, the Examinations of the Bodies granting Dental Diplomas, and that, like the Visitors appointed by the Council to attend the Medical Examinations, he be paid his travelling expenses and hotel expenses ;

"That the Registrar be instructed to obtain from the Bodies granting Dental Diplomas, the dates of their Examinations, during 1895 ;

"That the Executive Committee arrange at its meeting in February the commencement of the visitation."

On February 25, 1895, the Executive Committee resolved :—

That the Inspector be requested to attend the Examinations conducted by the Bodies granting Qualifications in Dentistry at such times as may be most convenient to himself during the present year.

On June 6, 1895, the existing Dental Education and Examination Committee was formed, and the Report of the Committee, based upon the Reports of the Council's Inspector of Dental Examinations, is now presented to the General Medical Council.

The Report is headed by a table prepared for the Committee by the Registrar, to show the curriculum as recommended by the General Medical Council, and how far the regulations of the four Dental Licensing Bodies are in conformity with those Recommendations.

It is pleasing to have to report that all the Bodies now come up to the approved curriculum, although the scheme of the Royal College of Surgeons of England differs somewhat from that originally laid down—for example, a course of Materia Medica lectures is not now required in their curriculum, whilst attendance at a recognised General Hospital for two winter Sessions instead of for one year is called for; as well as attendance upon a course of Dental Histology, with separate practical courses of Dental Surgery, Metallurgy, and Mechanical Dentistry. The Royal College of Surgeons of Ireland also requires two courses of Dental Surgery and of Mechanical Dentistry.

These deviations from the original Recommendations of the General Medical Council, it may be observed, in no way depart from the Council's wishes, since they all tend to make the practical part of the course of study more complete.

The Committee would here point out to the Council that whilst there is but one Dental Licensing Board in England and Ireland—(the two Royal Colleges of Surgeons)—there are two in Scotland, viz., the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow.

This Committee fails to see the advantages of Scotland having two Dental Boards, and would recommend that they should unite and form one Conjoint Board, so that there would then be but one Dental Licensing Body in each division of the United Kingdom.

The new regulations of the English College, that there shall be a Preliminary Science Examination, followed by two Professional Examinations, seem to this Committee to be framed entirely in the right direction.

Under this arrangement, Candidates for the Dental Diploma, before entering at a Dental School, may present themselves for the Preliminary Science Examination on the production of certificates of having received instruction at an institution recognised by the College for the purpose—in Chemistry, Physics and Practical Chemistry—these subjects being limited by Synopses; the examination being equivalent to Part I. of the First Examination of the Conjoint Examining Board in England.

The first Professional Examination — which includes Mechanical Dentistry and Dental Metallurgy — is open to the student after the completion of his three years' instruction in Mechanical Dentistry under a competent practitioner, and six months' attendance at a recognised Dental Hospital and School, on production of certificates of having attended a course of lectures on Dental Metallurgy, a course of practical Dental Metallurgy, a course of lectures on Dental Mechanics, and a course of practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns.

The Second, or Final, Professional Examination on Dental Anatomy, Physiology and Surgery (including operative work), Human Anatomy and Physiology, and Surgery (including Pathology), may be passed after the completion of the Student's four years of professional study from the date of registration as a Dental Student, on production of the required certificates as laid down in the Regulations, and after the lapse of not less than six months from the date of passing the First Professional Examination.

The Committee would likewise urge the adoption of Rule IV. in the Recommendations of the General Medical Council, as formulated by the Examination Committee in their Report, presented June 9, 1896:—

"That a Candidate remitted in any subject should, before he is admitted to re-examination, be required to produce satisfactory evidence that he has pursued the study of that subject during the interval of remission" (Minutes of the Gen. Med. Council, vol. xxxiii., 1896, p. 204).

This Committee cannot but express some regret that the Royal College of Surgeons of Ireland has not yet fallen into line with the three other Dental Licensing Bodies, by giving up, as these latter have done, the examination of *sine curriculo* Candidates.

As long as such Candidates are admitted to examination, and can obtain a license upon easier terms, *cum curriculo*

Candidates will not be encouraged to apply for the same qualifications; and, as a consequence, the good which might have been expected to accrue from the Dentists Act in raising the standard of the Dentist's Diploma will not completely be attained.

The Committee are reluctant to recommend to the General Medical Council any material alterations in the curriculum which was laid down after the passing of the Dentists Act in 1879. They are pleased to report that all the Examining Bodies in essential matters now follow out the curriculum, and fairly well maintain the standard of the Examination; where the arrangements of the Examining Bodies deviate from the scheme, they do so in order either to develop the practical branches of the dental art, or towards the curtailment from the course of study or the examination of such subjects as seem to be, or have been proved to be, non-essential. The Committee therefore recommend the Council to leave the responsibility of sanctioning these deviations in the hands of the different Examining and Teaching Bodies, under the conviction that by so doing they will, through the experience of these Bodies, be helping the solution of the problem as to the best scheme of education and examination of the dental student.

Thomas Bryant,
Chairman.

I will now read the Additional Report.

Additional Report, Presented May, 1897.

Part I.—With respect to Curriculum.

The changes in the curriculum of 1879 which are now recommended are based upon the collective experience of the four Dental Examining Boards in the United Kingdom, and are by no means revolutionary.

Thus in Anatomy, in regard to which this Council recommended in 1879 the attendance upon two winter courses of lectures, or as an alternative to the second full course, a short one of not less than twenty lectures on the Anatomy of the Head and Neck, together with some nine months' dissections, it seems that not one of the Examining Bodies has in recent years called upon their Dental Students to give more attention to Anatomy than is now required of the general Medical

Students who seek to pass one of the Conjoint Boards, and that the study of Anatomy now called for is attendance of a six months' course of Anatomy, with twelve months' dissections, including demonstrations.

The Committee therefore recommend the adoption of this change.

One six months' course of lectures in Physiology seems to be generally approved, but the Committee would like to see this course helped by a practical one, either introduced as part of the six months' course, or in preference as a separate course.

The English College of Surgeons adopts the latter arrangement.

The course of Dental Anatomy and Physiology of not less than twenty-four lectures has proved quite acceptable to the Examining Bodies, and the course has apparently included Human and Comparative Anatomy. The Committee would emphasise the necessity of this arrangement being always carried out, together with instruction in Dental Histology with the preparation of Microscopic Sections.

The Recommendations of the Council as to a six months' course of Lectures on Chemistry, with a practical course of not less than three months, and a separate course of not less than twelve lectures on Metallurgy, do not appear to have been closely followed; for one of the Examining Bodies has included the subject of Metallurgy in the course of Chemistry; whilst another not only requires a separate course of lectures on Metallurgy, but a separate practical course on the same subject.

The Committee hesitate at the present time to recommend that this extra practical course should be generally adopted, but would suggest that where no separate course of lectures on Metallurgy is given a distinct practical course should be enforced.

The Recommendation that one six months' course of lectures on both Surgery and Medicine should be required, together with a special course of not less than twenty lectures on Dental Surgery, is generally accepted; and the Committee would only suggest that in all these courses Pathology should be included, as it is most important that in clinical work the Examining Bodies should show the necessity of such work being based on pathological knowledge.

The single course of not less than twelve lectures on Mechanical Dentistry which this Council recommends seems to have been generally looked upon as somewhat limited, since at one College two courses are required and at another a separate course of practical work is called for.

The Committee believe that in this special dental work these deviations from the Recommendation of this Council are good, and advise that a course of Practical Dental Mechanics should be added to the curriculum.

With these slight additions to the curriculum, all of which tend to improve the practical work of the Dental Profession, the Committee advise the subject of Materia Medica to be eliminated. To require a Dental Student to attend a three months' course of lectures on this large subject the Committee believe to be quite unnecessary, for it seems certain that the therapeutical knowledge which is required by the Dental Practitioner will be gained during his attendance on the wards of the Hospital, the general lectures he is required to attend, and during his four years of practical work.

With respect to the other Recommendations of the General Medical Council the Committee have no suggestions to make in the way of alteration, such as

Attendance at a recognised General Hospital for one year with Clinical instruction;

Attendance on the practice of a Dental Hospital or Dental Department of a General Hospital for two years;

The attainment of the age of twenty-one years;

Having passed a Preliminary Examination in General Education;

Having been engaged in Professional Studies during four years;

Having received instruction in Mechanical Dentistry during three years;

since all these Recommendations seem to be acceptable to all the Bodies.

PART II.—RECOMMENDATIONS WITH RESPECT TO EXAMINATIONS.

With respect to the division and order of Examinations for the Dental Diploma, it does not appear that the General Medical Council has made any recommendations beyond the suggestion that the Examinations should as far as possible be of a practical character, and should include actual operations and the preparation of specimens of Mechanical Dentistry (Minutes of the Gen. Med. Council, vol. xvi., p. 146, 1879). The Council in 1879 clearly thought it expedient to leave all such arrangements in the hands of the Examining Dental Bodies.

It is satisfactory to report that this confidence has not been misplaced, although your Committee, as an outcome of the Inspections which have just been completed, are of opinion that some improvement in the order and course of the Examinations may with advantage be introduced.

(1) They would suggest that the Preliminary subjects of Physics, Chemistry, and Practical Chemistry—which may be attended before Registration—should be passed before, or as soon as, the Student enters at a Dental School; this Examination being made to stand in relation to the Dental Diploma in the same position as it is desirable that the Preliminary Scientific Examination—which includes the same subjects—should stand to a registrable Medical Qualification.

(2) That the first Professional Examination should be open to the Student after the completion of his three years' instruction in Mechanical Dentistry under a competent Practitioner, and after registration and six or twelve months' attendance at a recognised Dental Hospital and School, on the production of Certificates of having attended a course of lectures on Dental Metallurgy, either including practical work or with, if possible, a course of practical Metallurgy as well; and a course of lectures on Dental Mechanics, either including practical work or with a course of practical Dental Mechanics as well.

This Examination should include Elementary Chemistry, Mechanical Dentistry, and Dental Metallurgy; the two former being partly Practical and partly Oral, the latter by written paper only.

It might likewise include the subjects of Dental Anatomy and Physiology, as well as General Anatomy and Physiology, if found convenient to the examining bodies.

The Practical part of both the first and the second Examination should always be made a strong feature.

(3) That the Second Professional or Final Examination

should be open to the Student after the completion of his four years' professional study from the date of registration as a Dental Student and after the lapse of not less than six months from the date of passing the First Professional Examination; the student being required to produce evidence of having previously attended at a recognised Dental Hospital and School:—

(i.) the practice of Dental Surgery for two years;

(ii.) a course of Dental Anatomy and Physiology, including Dental Histology;

(iii.) a course of Dental Surgery, either including practical work or with a course of practical Dental Surgery as well;

(iv.) a six months' course of Anatomy at a recognised Medical School and of having performed dissections for twelve months;

(v.) a six months' course of Physiology, including practical work, or a separate practical course of Physiology;

(vi.) a course of lectures on Surgery, including five lectures on the affections of the Mouth;

(vii.) a course of lectures on Medicine.

Certificates should also be produced of having attended at a recognised Hospital or Hospitals the Practice of Surgery and Clinical Lectures in Surgery for one year or two winter sessions; and of being 21 years of age.

The Examination should be partly written, partly practical, and partly oral.

It should include:—

Practical Anatomy and Physiology; Dental Anatomy and Physiology (unless these subjects have been included in the First Professional Examination);

Dental Surgery and Pathology; and

Practical Dental Surgery.

An Examination in General Medicine and Therapeutics is not required; the necessary teaching and learning of these subjects so far as they belong to the practice of Dentistry being included in the General Scheme as laid down.

THOMAS BRYANT, *Chairman.*

The motion for the reception of the Report was then put from the Chair and carried.

Mr. Bryant : I will now move the adoption of the Report.

The Chairman : I think we should consider the position of the Council now in connection with the Report you have just read. I myself would venture to say that I do not think you should put the motion for the adoption of the Report. I suggest that because you will observe that under the head of Part II. of the recommendations with respect to the examinations, the Committee have formulated a whole series of recommendations, and it is customary, when reports of this kind come before the Council, that those recommendations should be considered *seriatim*.

Mr. Bryant : I will follow your suggestion, sir.

The Chairman : Is it the pleasure of the Council that the further consideration of this most important Report should be on the lines I have indicated ?

Dr. McAlister : Are we going into committee ?

Mr. Teale : May I ask whether these are in proper form ? Do these want converting into recommendations ?

Mr. Bryant : They are ready to come forward.

Dr. Heron Watson : Before going into Committee, would it not be desirable that the Report should be sent down to each of the Bodies granting diplomas, in order that they may express their opinions upon them ? If we had such a concensus of opinion we should be in a better position to carefully consider the matter. It would be far better to carry the Bodies with us if we possibly can. They have had no opportunity of seeing any other Reports than that on their own examination. If they had this general admirable Report which the Chairman of the Committee has read, I think it might go a great deal to smooth away the difficulty. There can be no hurry with regard to the matter, and I do not think the loss of six months will be any real loss, but rather a gain in the direction of being able to carry on what is suggested to practical application.

The Chairman : Will you make a motion to that effect ?

Dr. Heron Watson : I will move that.

Mr. Bruce : I beg to second that.

The Chairman : The Council will observe that in accordance with this motion of Dr. Watson's, supposing it is agreed to, these Reports will go before the Bodies not as recommendations of the Council, but as recommendations of this

Committee. Perhaps Dr. Watson will frame his motion in that way so that the Bodies may see then the recommendations of the Committee and not of the whole Council.

Mr. Teale: Will it not also be well to say "With a view to the consideration of the recommendations at the next meeting of the Council"?

The Chairman: Yes.

Dr. Tuke: I should like to call attention to the remarks made with regard to the *sine curriculo* examination. They are very strong remarks, but there is no recommendation. Might not the Committee consider whether they will not make a definite recommendation upon the question so as to test the opinion generally of the Council?

The Chairman: Though that would not be outside the Report, it is outside the series of recommendations. It is a wide question upon which a specific motion might be made. It does not affect the question which Dr. Heron Watson raises.

Mr. Bryant: I might say without a breach of confidence that in my first Report brought before the Committee I introduced a sentence which was toned down in our meeting yesterday—so much so, in fact, that one part of it was eliminated. As there seems to be a wish that the question should be brought before the Council to test the feeling connected with it, I should like to say that I have written here "The Committee of the Board strongly urge upon the General Medical Council to so influence the Royal College of Surgeons of Ireland as to induce them to give up as speedily as possible examining *sine curriculo* candidates." That was my own conclusion, but my friends, when they came to consider it, thought it was rather a harsh one, and it was eliminated. I should be very pleased indeed, as a member of the Council and as Chairman of the Committee, to make the proposal as it stands, and test the feeling of the Council on it.

The Chairman: Dr. Watson has handed me in his motion. It is as follows:—"That the recommendations of the Committee on Dental Education and Examination, together with the whole of the Reports bearing upon the recent Inspection of the Examinations of the four Bodies granting diplomas in Dentistry, be sent to those Bodies for their consideration, with a view to their expressing their opinion on the same, and that these opinions be reported to the Council at its November meeting before the Council comes to a decision on the recommendations of the Committee."

Mr. Brown: I should like to ask whether you could include in that a supplementary note to the College of Surgeons, Ireland, asking as to their willingness to forego the examination *sine curriculo*.

The Chairman: That will form a special motion by Mr. Bryant, which, if you agree to this, will follow.

Dr. Heron Watson's motion was then put from the Chair and carried.

Mr. Bryant: I propose to defer the Resolution which I was going to bring before the Council respecting the *sine curriculo* candidates until we get the Report from the Dublin College. I should like to hand this in as a notice of motion.

The Chairman: We cannot send a notice of motion to the Body.

Mr. Bryant: I think we had better postpone it.

Dr. McVail: I should like to call Mr. Bryant's attention to one point regarding the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, with reference to which the Committee laments that these two bodies do not form one Joint Board. Would Mr. Bryant show these bodies how they could form a Joint Board? I only want to call Mr. Bryant's attention to the fact that there is no power under the Dental Act to do that. There is power under the Medical Act to combine for the medical qualifications, but there is no power under the Dental Act so far as I can see, or as far as we can see in Glasgow, so I think it is hardly fair to put that in the Report, and I think that part should go out.

The Chairman: It has already been entered as an appendix to the minutes. You should have raised that question earlier.

Dr. McVail: Has the Report been adopted?

The Chairman: It merely goes in as an appendix. There is no motion to adopt it, and I venture to suggest to Dr. McVail that what it has stated would be a very efficient answer on the part of the Faculty of Physicians and Surgeons, namely, that there is no power to enter into combination. It might form part of the opinion which they will express to this Council to be considered at the November meeting.

Dr. McVail: I want to point out that the two Bodies in

Scotland are entirely blameless in the matter, because they have no power.

Dr. Rentoul: I take objection to what Dr. McVail says. If you refer to Section 28 of the Dentists Act of 1878, you will find that there is power given there for the formation of examining bodies, "in the event of the Board being at any time after the passing of this Act established."

Dr. McVail: But that Board is a Board from each Body, entirely restricted to one Body. That is not a combined Board. There is no power given there.

Dr. Rentoul: Oh yes, there is.

Dr. McVail: There is no power given for the combination of two Boards.

Mr. Brudenell Carter: The words are "nominated on behalf of any two or more medical Bodies."

The Chairman: There is no motion before the Council. Attention has been called to the matter, and I have no doubt the bodies will satisfy the Council on the matter in their answer.

Dr. Rentoul: Is it going forth that the Colleges have not at present statutory power to combine?

Dr. McAlister: Will it appear from anything remitted to the four bodies that the Dental Examination Committee of this Council have any objection to *sine curriculo* examination? I take it that the only phrase objecting to it was struck out.

May 29, 1897.

Sir William Turner (in the temporary absence of Sir Richard Quain, Bart.) in the Chair.

Mr. Thomson: With your permission, Sir, and with the permission of the Council, I venture to call attention for a few moments to the Report of Mr. Tomes on the Examination for the Diploma in Dentistry of the Royal College of Surgeons of England. The Council is aware that a whole mass of Reports has gone down to the various Colleges for consideration and report to this Council next winter; but I notice that in the Report which Mr. Tomes has sent in regarding the Examination in London one or two statements are made which I think it would be well that the Council should have its attention drawn to, because it is quite possible that these statements may have some considerable effect in regard to other Licensing Bodies. I point out that in the Report, page 20 of Appendix 2 of the minutes, Mr. Tomes says in the remarks—"The general conduct of the Examination, the scope and suitability of the questions asked, and the methods of marking adopted, leave little to be desired." And if you will pass on to page 27 you will find in the Report of the Dental Education Committee—the Report to this Council—in the very last paragraph, a Report which is signed by Mr. Bryant as Chairman, these words: "The Committee regard this Report as a valuable one, and asks the Council to bestow upon it their close attention. The alterations which it contains in both the curriculum and course of examination appear to be in the right direction, and your Committee believe that many are worthy of adoption." We have therefore this Report sent down to the other Licensing Bodies with the declaration of the Inspector as to the excellence of this Examination, and that is corroborated by the Report of the Dental Committee, who considered Mr. Tomes' observations, and considered that the changes have been in the right direction, and that the Examination is one worthy of adoption. Therefore it is not unlikely that other Bodies may consider the question whether they ought not to model their Examinations upon this model which was sent to you. Now, I ask the attention of the Council to one or two points in the Report of the Examination in Surgery on this Body. You will find it on page 17, at the bottom of the page. Remember that this Examination is for gentlemen who are to receive the licence to practise dentistry pure and simple. "In surgery the following present a fair sample of the questions asked"—I am not going to read through all these, but you will find, in the first paragraph, the treatment of parotid fistula; in the next, tongue-tie and its treatment. If you turn to page 18 you will find these questions: removal of the tongue, sebaceous cyst of the scalp, dermoid cyst—and then, going down a little further, wound of the radial artery, gummata, the stages of syphilis and the treatment of it.

Mr. Rentoul: May I ask if this is a surgical qualification?

Mr. Thomson: This is a qualification for drawing teeth only—dentistry pure and simple. Now, sir, I want simply to call the attention of the Council to this, which has come before us formally, which has been received upon our Minutes, which has received the approval, as far as it goes, of the Dental Committee, and which has been sent down, with that stamped approval, to the other Licensing Bodies; and I should like to know from Mr. Bryant, who is Chairman of the Dental Committee and the Representative of the English College of Surgeons, whether he thinks that an examination in surgery for gentlemen who are to be dentists, such an examination as is here laid before us, is one which is quite adapted to the purposes of this qualification? It seems to me that if we are to proceed upon these lines, we are putting the dentists into a much better position than the licentiates or members of any College of Surgeons in the kingdom, because we are not only testing a dental student's capacity to deal with the whole subject of dentistry, but we are enlarging his powers and knowledge by tests as to the recognition of syphilis and as to its treatment in general, and as to the treatment, for instance, of sebaceous cysts and scalps. I, myself, do not quite see what the connection is between the scalp and the teeth, or syphilis in general and the teeth. I can quite understand that certain syphilitic sores about the mouth might be recognised and examined, but when we get into the general question of gummata, the question of syphilis, and the treatment thereof, I think this Council ought to say something, at all events, with regard to limiting the scope of an examination in surgery. We are about, apparently, to create a new order of practitioners—gentlemen who are to be dentists and to know a great deal of what the general surgeon knows—in fact, to make a class of dentists who, in some respects, are to be superior to the ordinary members or licentiates of the various surgical corporations. That is the only observation I should like to make. It is, I think, a matter of urgency, and the Council should consider it.

Mr. Bryant: I would like to explain in one word with respect to what was written at the end of the Report of the Dental Education and Examination Committee, where we stated that "the Committee regard this Report as a valuable one, and ask the Council to bestow upon it their close attention," and so on. Those remarks were drawn up in the first Report before the question was returned to us for reconsideration as regards examination. We feel that the line which my own College had adopted in the way of examinations were good, and although we were not prepared then to recommend to the Council a scheme, something drawn up very much in the same line as has been adopted by my College, we thought it was worth calling the special attention of the Examining Boards to what the College of Surgeons of England was doing, so that they might personally frame their own schemes somewhat on the same line. Now, however, in the second Report, when you read it carefully, you will find it does include many of the arrangements that have been adopted by my College, and so these remarks which have been made in the first Report are really realised in the second Report, (page 14), which you have before you. I raise no objection to the remarks which Mr. Thomson has made with respect to the Examination. I think he is quite right in calling our attention to the subject. Of course, to talk of the removal of the tongue and cysts on the scalp seems to be a little outside their province, and I have not a shadow of fault to find with Mr. Thomson's aim; but I would like to say at the same time that if you put down a series of questions that have been given at any examination at all, there is never the slightest difficulty in raising objections to one or two, in a large series of *viva voce* examinations, and here we have a large series of examinations, and I think on looking down them as a whole they are most satisfactory. But I am quite pleased to have had my attention called to them, and I will call the attention of my own College to them.

A New Filling Material.

Dr. F. W. Bliss in the *Pacific Stomatological Gazette* states that the following combination yields satisfactory results as a filling:—

White gutta-percha	eight parts.
Aluminum filings	five parts.
Oxide of zinc	one part.
Whiting	one-half part.

This mixture is named "Aluminized Gutta-percha." It is easily manipulated, free from bulging, and holds its position in the cavity when firmly packed.

Hospital Reports and Cases in Practice.

A Case of Acute Inflammation of the Antrum.

By FRANK MORLEY, L.R.C.P., M.R.C.S., L.D.S.

The patient, a man aged 45, presented himself with the following history:—He had had some indefinite pains about the right side of his mouth and face for three months; these were not at all severe, were neuralgic in character, and a period of two or three weeks often elapsed without his experiencing them. On the night before he came to me he was quite well, but he woke up in the early morning with severe pain on the right side of his face, and on turning over in bed noticed a discharge of about a tablespoonful of clear fluid (not purulent) from one of his nostrils, he could not say which.

On examination I found his face much swollen on the right side, slight prominence of the right eye, and œdema of the palate on the same side; the skin of the face was red and hot to the touch. His temperature was raised and his pulse just over 100 beats a minute. The only teeth remaining in his right maxilla were the canine and the third molar. These were both loose, and thickly encrusted with tartar. They were removed, but no discharge followed the extraction; and as far as I could make out with a fine silver probe there was no communication with the antrum through their sockets. No further treatment was adopted, and three days later all swelling and pain had ceased, and the patient was well.

In the opinion that the swelling was antral, I am confirmed by the surgeon who saw the case by my request. I had never seen this condition of acute inflammation of the antrum before, nor have I seen it described in any book; similar cases must have happened, and of one of these I am acquainted; still, I cannot but think that acute inflammation of the antrum is of very rare occurrence.

[A case of acute inflammation of the antrum appeared in this journal, March, 1894.—Ed. *J.B.D.A.*]

Obituary.

Mrs. Howard Mummery.

We feel sure that all members of the Association will join with us in expressing our deep sympathy with Mr. Howard Mummery on the loss of his wife after a sudden illness. Those who were fortunate enough to be present at the garden party given last year at Southall must have carried away very pleasant recollections of their amiable hostess on that occasion. Mrs. Howard Mummery was travelling in the north of England with an American friend, when she was seized with an attack of pleuro-pneumonia, from which she succumbed.

Miscellanea.

Cases of Supposed Third Dentition.

M. V. Gaudibert (Marseilles) in the *Archives Nationales de Stomat. et d'Art Dentaire* (April, 1897), gives particulars of the following, which he designates as three cases of third dentition:—In 1892 he extracted from the mouth of a patient, M. D., 70 years of age, all the maxillary molars, and made for him a denture with seven teeth, which did efficient service for a year. At the end of this period the patient called, and complained that the apparatus caused him pain on the right side, and no longer fitted. After a fresh examination, and feeling quite certain that he had not left any roots behind, he felt convinced that he had a case of third dentition before him. A new case was constructed, and an opening was left for the expected tooth, which was eventually extracted. It occupied exactly the place of the first molar.

In a second case, M. Gaudibert was called upon to remove all the teeth from the maxilla of a patient 53 years of age; the front teeth were extracted first, and six months afterwards a canine-like tooth made its appearance.

In 1880 he also met with the eruption of a molar on the right side in the mouth of a patient 69 years old, from whose mouth three or four months previously he had extracted all the molar teeth.

A Method of fixing Handles to Surgical Instruments.

M. Charbonneau, in *Archives Nationales*, gives the following method for fixing handles to surgical instruments:—"Prepare a mixture in equal parts of powdered pumice and of finely powdered resin, introduce the necessary quantity of this mixture into the handle, heat the tang of the instrument, and push it home while warm." Old pieces of corundum wheels, crushed to a powder, he finds is nearly as efficacious as the pumice and resin.

The International Medical Congress.

The Twelfth International Medical Congress will be held in Moscow from the 7 (19)-14 (26) August, 1897. Those desiring to take part will receive cards of membership on the payment of 25 frcs. Dentists, for some reasons not stated, or for no reason, are placed among the extraordinary members. These only take part in the section in which their name is inscribed. They receive, however, all the publications, but have not the right of voting on the questions concerning the organisation of the Congress. The section of surgery propose to collect a table of statistics relating to the employment of anæsthetics during the year 1896. The surgeons of the whole world are requested to forward the following particulars: Number of administrations carried out from January 1, 1896, to January 1, 1897; nature of the anæsthetic; number of deaths. The replies must be sent before July 1, 1897, to the Secretary of the Section, Dr. F. Rein, Maison Scheschkow, Malaja Dmitrovka, Moscow.

The German dentists strongly resent the fact of dentists being excluded as ordinary (*i.e.*, full members) and admitted only as extraordinary members. The *Journal für Zahnheilkunde* devotes a long and acrimonious article to this subject, and advises its friends to give Russia a wide berth, and to reserve themselves for the Congress in Paris, in 1900. In the last number of *L'Odontologie* this article is referred to, and a cordial invitation to German dentists for 1900 is given.

There is also a letter dated April in the *Odontologische Blätter* from Dr. O. Klingelhöfer, who writes from St. Petersburgh and claims for dentists the same position in Moscow that was accorded to the dental profession at the International Congresses in London, Washington, Berlin, and Rome, namely, equality with medicine.

Total Necrosis of the Mandible after Osteomyelitis.

A case of total necrosis of the mandible after osteomyelitis is quoted in a recent issue of the *Dominion Dental Journal*. A female child aged 12 was taken suddenly ill, with a high temperature and pain around the mandible. Marked swelling rapidly developed and interfered considerably with speech and deglutition. After a lapse of about four weeks, an abscess developed on the right side and all the teeth fell out. On examination the mouth could not be closed, a large quantity of fœtid pus was escaping, and the entire mandible was found to be comparatively loose. The urine contained a large quantity of pus. The bone was removed in pieces, but unfortunately the operation was too late, the prolonged suppuration having led to amyloid degeneration of the kidneys.

Pulp Devitalisation in the Teeth of Children.

Dr. Darby, in the *International Dental Journal*, referring to this question says, "One of our great difficulties in dealing with the teeth of children is the devitalisation of the pulps when indicated. I have used, and with much success, for this purpose a paste of powdered cantharides and carbolic acid; say about one-twentieth grain of the powder with enough carbolic acid or creosote to make a paste. I know that the use of arsenic for this purpose is justly viewed with much suspicion, but my opinion is that it is largely a question of how much arsenic is used. I use arsenic for this purpose in very minute quantities and have had no ill results. The canals of children's teeth should of course be cleansed thoroughly and sterilised. I question the use of cotton dressings in these cases, for should the foramen be large, owing to a partial resorption of roots, soft tissues might be impinged upon, and the cotton becomes a source of irritation or worse. I think the safer practice is to use fluid in the canals and oxychloride in the pulp chamber.

A Remarkable Student.

We quote the following from the *Indian Medical Record*:—

"A student, named Borysik, has just passed the final examination at Warsaw University qualifying him to practise as a doctor of medicine in Russia. Borysik was born in 1822, and was educated at Suvalk Higher Grade School, with a view to becoming a medical man. After passing his matriculation lack of funds prevented him from at once proceeding to the University, and he was compelled to work as a tutor for twenty years in order to save enough money to enable him to continue his studies. At the end of that time he presented himself at Warsaw Medical Academy, and passed the entrance examination with distinction. Before he could begin his studies the Polish Rebellion of 1863 broke out, and Borysik, who was now 41 years of age, threw himself into the movement with all the enthusiasm of a youthful revolutionist. The revolt was suppressed, and Borysik was exiled to Siberia, where for thirty-two years he underwent hard labour in the silver mines. In 1895 he received a free pardon and returned to Warsaw. In spite of his age and the hardships he had endured Borysik had lost none of his enthusiasm for medical work, and took up his studies where he had left them off in 1863. After a two years' course this remarkable man has now, at the age of 75 years, passed the final medical examination with honours and will begin to practise in Warsaw."

Dental Progress in Japan.

The present position of dentistry in Japan forms the subject of an interesting article in the *Ohio Dental Journal* by Teimaro Kubota. How rapid the progress has been is shown by the statement that while scarcely sixteen years ago Japan could boast of no regular dentist, now about three hundred practitioners are to be found, and a proper system of education and examination has been instituted. The examination is conducted by a Board appointed by the Imperial Government, and candidates must show proficiency in chemistry, anatomy, physiology, pathology, operative dentistry, materia medica, and therapeutics, the course of study extending over a period of five years.

Three dental schools now exist, two in Tokio and one in Nagoya. There are two Dental Associations: one called the Tokio Dental Society is composed of dentists and students, and meets every two weeks and publishes a monthly journal; the other Dental Association is composed solely of dental practitioners, and has a membership of about thirty. Foreign dentists are to be found in Japan, but owing to the various treaties they can only practise at the open ports, namely, Yokohama, Kobe, Nagasaki, Nügata, Hakodah. These restrictive treaties will probably expire within the next two years, and then all Japanese cities will be open to foreign dentists.

G. M. P. Murray, F.R.C.S.I., Hon. Sec. Irish Branch, has been elected a member of the Council of the Royal College of Surgeons, Ireland.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Air-Gas for Furnace Work.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Mr. Gartrell makes a statement on page 296 of the May number of the Journal which is rather alarming and may mislead many of your readers. After describing his furnace he says: "Ordinary gas is used, or the Fletcher gasoline apparatus may be adapted where gas is not attainable, but gasoline requires great care in handling, as it will explode if exposed within three feet of a naked light."

We have used Fletcher's generator for some time past, and our experience goes to show that with ordinary care there is no danger either in using gasoline, or pure spirit petroleum, or benzoline in it for furnace work, and our opinion is fully confirmed by Mr. Fletcher himself, who states that "Air-gas *is* dangerous in improperly-made arrangements, but we have never heard of any accident in over twenty years' experience, and I have repeatedly *tried* to explode ours without success."

Yours faithfully,
CLAUDIUS ASH & SONS, LTD.

Books Received.

TRANSACTIONS OF THE ACADEMY OF STOMATOLOGY. *Philadelphia:* J. B. Lippincott Company, 1897.

THE ADMINISTRATION OF NITROUS OXIDE AND OXYGEN FOR DENTAL OPERATIONS, by Fred. H. Hewitt. *London:* Claudius Ash & Sons, Ltd., Broad Street, Golden Square. *Philadelphia:* The S. S. White Dental Manufacturing Co.

A PRACTICAL TREATISE ON MECHANICAL DENTISTRY, by Joseph Richardson, M.D., D.D.S. Seventh Edition, Revised and Enlarged, and Edited by George W. Warren, D.D.S.; 691 illustrations. *London:* J. & A. Churchill, 7, Great Marlborough Street, 1897.

A SYSTEM OF DENTAL SURGERY, by the late Sir John Tomes, F.R.S. Fourth Edition, Revised and Enlarged by Charles S. Tomes, M.D., F.R.S. *London:* J. & A. Churchill, 7, Great Marlborough Street.

Appointments.

ARTHUR READ, L.D.S.Eng., to be Honorary Dental Surgeon to the Western Branch of the Brighton, Hove and Preston Dispensary.

D. P. GABELL, L.R.C.P., M.R.C.S., L.D.S., to be Assistant Dental Surgeon to the Dental Hospital of London.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 7. JULY 15, 1897. Vol. XVIII.

Sir William Thomson and Dental Examinations.

THE necessity for a dental representative has again been emphasised at the recent sitting of the Medical Council.

When the Dentists Act was passed and its administration entrusted to that body, some of its leading members resented the imposition upon them of this not altogether pleasant work. In its initiatory stages the labour of organisation was great and difficult. The Council had to deal with a large body of men unaccustomed to registration or to control of any kind, and who considered the position which they had gained by being in actual practice as quite sufficient for all professional or social purposes. They had also to deal with a large number of unqualified men who rushed for a place on the newly established Register, regardless of any right beyond their own self-assertion.

The indefatigable perseverance and patience of Mr.

Miller overcame the first difficulty, but the insistence of the unqualified pretender was yielded to by the Council in a manner most astonishing. Indeed the opinion was widely entertained, and not without reason, that this wholesale surrender of the Dentists' Register was well calculated to wreck the Dentists Act. Now this great injustice would have been almost impossible had there been present a dental representative having power to speak when he thought fit in order to elucidate such questions as they arose. As it was, the gentleman who generously consented to be present on our behalf, for purposes of consultation, had to sit quietly and hear his profession and the framers of the Act insulted and even vilified without being able to make even a protest against such conduct.

Since that time many instances have occurred to recall these unpleasant memories, and although we are happy to recognise a great change for the better, we cannot but regret that as a body we were unrepresented at the last session of the Council, so that the fallacies of that extraordinary speech made by Mr. (now Sir William) Thomson, on the questions asked at a recent examination for the dental diploma held by the Examining Board of the Royal College of Surgeons of England, might have been at once exposed. After enumerating what he calls "a few samples" of the questions, he was interrupted by Mr. Rentoul, who said, "May I ask if this is a surgical qualification?" to which the critical Sir William Thomson replies, "This is a qualification for drawing teeth only—dentistry pure and simple."

It must be interesting to us all to observe the clearness of intellect, or at all events of expression, brought to bear on our affairs. Sir William Thomson had been speaking for only a few minutes; he began by calling attention to the report of Mr. Tomes on the examination for the

diploma in dentistry of the Royal College of Surgeons of England, and in continuing, he refers to Mr. Tomes's report, and to the Dental Education Committee, and to Mr. Bryant as its Chairman, and immediately before enumerating his "fair samples" of questions, he said "remember that this examination is for gentlemen who are to receive a licence to practise dentistry pure and simple." Now one would think that this sentence was fairly emphatic, but at the end of a further ten lines of the report, which contain a statement of "samples," the speaker is interrupted by the question already referred to. Either we are greatly indebted to our reporter for his rendering of Sir William Thomson's speech, or else the questioner could have been paying but scant attention to the business before the meeting. But question and answer are both delightfully ambiguous. Mr. Rentoul asks, "Is this a surgical qualification?" May we on behalf of our Association, ask, Is what a qualification? Is it the speech of Sir William Thomson, or the "samples" enumerated by him, or the meeting generally, or the desk in front of the questioner? Sir William Thomson, however, with a power of bridging a gap worthy of Alice in Wonderland, immediately replies, "This is a qualification for drawing teeth only—dentistry pure and simple;" and so, according to Sir William Thomson, the purity and simplicity of dentistry consists in a qualification for drawing teeth only. After this broad-minded, albeit rather obscure, exposition of dental practice we can hardly be surprised to find that Sir William Thomson has some rather confused ideas regarding the use of an examination and the virtues of a qualification. Here is what he says:—"It seems to me that if we are to
"proceed on these lines, we are putting the dentists
"into a much better position than the licentiates or

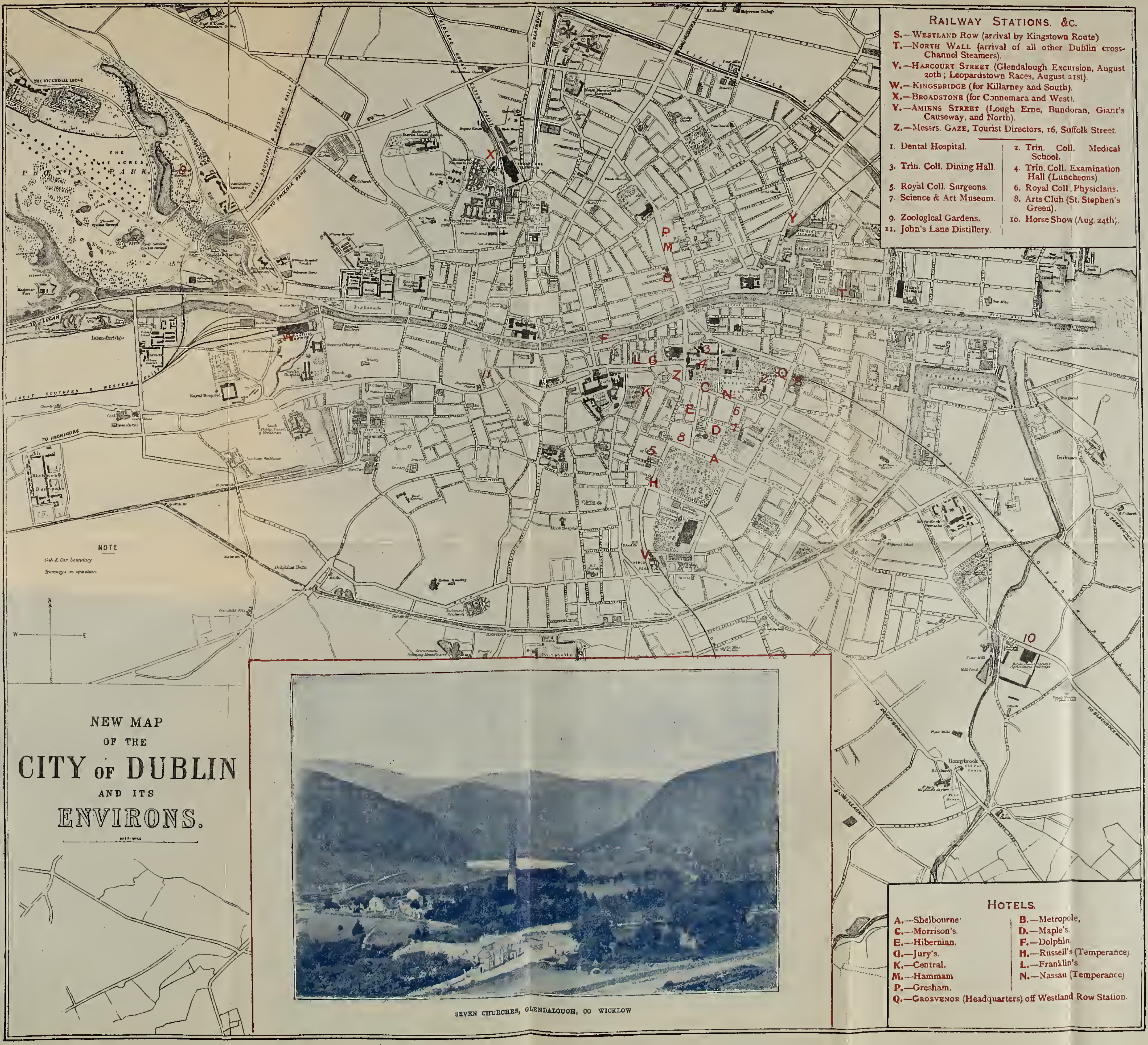
“ members of any College of Surgeons in the king-
“ dom, because we are not only testing a dental
“ student’s capacity to deal with the whole subject of
“ dentistry, but we are enlarging his powers and
“ knowledge by tests as to the recognition of syphi-
“ lis and as to its treatment in general, and as to
“ the treatment of sebaceous cysts and scalps ” (*sic*); and after a demand that the Council should say something with regard to limiting the scope of an examination in surgery, he winds up as follows: — “ We are
“ about to create a new order of practitioners—
“ gentlemen who are to be dentists and to know
“ a great deal of what a general surgeon knows—in
“ fact, to make a class of dentists who, in some
“ respects, are to be superior to the ordinary members
“ or licentiates of the various surgical corporations.” How the questions an examiner puts to a candidate can place him in any position, better or worse, other than the desired qualification gives him, is hard to realise. Further, we should like to know how a man’s powers and knowledge are enlarged by any number of questions addressed to him by any number of examiners?

According to Sir William Thomson one would think that examiners are in the habit of imparting to the candidate that knowledge, the possession of which they only want to test. We do not wish to discuss the propriety of the questions alluded to, as that is a matter the College of Surgeons of England is amply qualified to decide, but the methods of, and the reasons for objecting remind us of some of the most narrow-minded and jealous exhibitions of apprehensive selfishness that were common enough when the Dentists Bill was in progress, and which we had hoped the experience of eighteen years had consigned to oblivion.

Has Sir William Thomson ever heard of dental surgery? If he has not we can refer him to a literature that might enlighten him as to the purity and simplicity of dentistry. And how does Sir William Thomson reconcile his apparent attitude at the Medical Council with the curriculum and with the examination required of *cum curriculo* candidates by the College of which he is President, and which he represents upon the Council. We say nothing of that required of the *sine curriculo* candidate, but the first part of the examination of the Royal College of Surgeons of Ireland goes very far beyond the views of its President. Sir William Thomson unwittingly manages to stumble near to the truth at the end of his remarkable speech, when he talks of "creating a new order of practitioners in some respects superior," &c. We do not know much about creating, but this we know, that we have already reared and educated a class of men who, "in some respects" are superior to the ordinary members of surgical corporations, and that the "some respects" lies in the practice of Dental Surgery. If Sir William Thomson wishes to limit their knowledge he should attack the teachers and the students as well as the examiners. But he may wish as he may, plainly he cannot do it while there are teachers to teach and text books to be read, and we believe that the "knowledge and power of the dentist" will continue to "enlarge" with the extension of scientific knowledge. We also believe that this knowledge and power will, as hitherto, be used for the benefit of the public at large. (Does Sir William Thomson know anything of the history of ether and nitrous oxide gas?) We are of opinion that the more the dentist knows of surgery and medicine, the higher will be his appreciation of the surgeon and physician, and the more careful and the more able will he be to conduct his dental practice on the lines of his speciality, and avoid the pitfalls of a "little knowledge." We can assure Sir William Thomson, further, that in the "purity and simplicity" of his practice—though perhaps not "in drawing teeth only"—the educated dentist can find plenty to occupy all his faculties, and can sometimes be of great service to the licenciates of any of the corporate bodies, of whom, indeed, Sir William Thomson does not appear to think very highly, when they have landed themselves in a difficulty through their contemptuous ignorance of Dental Surgery. The able letter of Mr. Newland Pedley to the *Lancet* replies categorically to the objections taken by Sir William Thomson to the samples of questions, and treats them with a seriousness which they hardly deserve. We are of opinion that any movement which has for its object the limitation of professional knowledge to meet the views of any particular board of examiners, can scarcely come within the range of sober argument at this time of day.

The Annual General Meeting.

The preparations for the Annual General Meeting, which is to be held in Dublin, are now nearly complete, and a glance at the programme and other particulars, which we publish in this issue, will show that nothing has been left undone to ensure a successful gathering, and it is gratifying to hear that the efforts of the Irish Branch have received most willing and loyal support from Trinity College, Dublin, the Royal College of Surgeons, the Royal College of Physicians, and other scientific and art societies with which Dublin abounds. The business part of the meeting is to be held at Trinity College, and the Executive of this Corporation has granted the Association the exceptional privilege of holding their Annual Dinner in the magnificent dining hall.



RAILWAY STATIONS, &c.

S.—Westland Row (arrival by Kingstown Route)

T.—North Wall (arrival of all other Dublin cross-Channel Steamers).

V.—Harcourt Street (Glendalough Excursion, August 20th; Leopardstown Races, August 21st).

W.—Kingsbridge (for Killarney and South).

X.—Broadstone (for Connemara and West).

Y.—Amiens Street (Lough Erne, Bundoran, Giant's Causeway, and North).

Z.—Messrs. Gaze, Tourist Directors, 16, Suffolk Street.

1. Dental Hospital.
2. Trin. Coll. Medical School.
3. Trin. Coll. Dining Hall.
4. Trin. Coll. Examination Hall (Luncheons)
5. Royal Coll. Surgeons.
6. Royal Coll., Physicians.
7. Science & Art Museum.
8. Arts Club (St. Stephen's Green).
9. Zoological Gardens.
10. Horse Show (Aug. 24th).
11. John's Lane Distillery.

NEW MAP
OF THE
CITY OF DUBLIN
AND ITS
ENVIRONS.

SEVEN CHURCHES, GLENDALOUGH, CO WICKLOW

HOTELS.

A.—Shelbourne.
B.—Metropole.
C.—Morrison's.
D.—Maple's.
E.—Hibernian.
F.—Dolphin.
G.—Jury's.
H.—Russell's (Temperance).
K.—Central.
L.—Franklin's.
M.—Hammam
N.—Nassau (Temperance)
P.—Gresham.
Q.—Grosvenor (Headquarters) off Westland Row Station.

Among the papers promised we note with pleasure one from the pen of Mr. Booth Pearsall on "The Edentulous Mouth and its Treatment with and without Spiral Springs." The subject is an interesting one, and taking into consideration Mr. Booth Pearsall's wide knowledge of such questions, we can prophesy a paper of both value and interest. "Some Aids in Practice" is the subject of another paper by the same author. Mr. Quinlan will read a paper on "The Conservative Treatment of Exposed and Diseased Pulps, as Opposed to Extirpation," being the result of several years' experiments. The subject is one capable of full discussion, and anything that will tend to shorten our methods in the direction of pulp treatment, and at the same time give equally good results, will indeed be welcome.

The Microscopical Section bids fair to be most successful, and we are to have, we believe, quite an unique and unrivalled display of histological apparatus. This Section has been growing in strength year by year, and has tended to cultivate and increase microscopical research, a branch of dental science the value of which is, we fear, underestimated by a large number of dental practitioners. The papers to be read and the demonstrations to be given are more numerous than usual, and many of the subjects to be discussed are of great interest, as much from a practical as from a scientific point of view.

Socially, the meeting should prove most agreeable. There is to be a reception in the Royal College of Physicians; a dinner to the Representative Board in the Royal College of Surgeons; a smoking concert in the Dublin Arts Club; and a reception and conversazione by Dr. and Mrs. Stack, in the Science and Art Museum.

The excursion to Glendalough, if the weather is fine, will undoubtedly prove enjoyable. A special train will run to Rathdrum, the journey occupying about one hour, and the route being through charming scenery. From Rathdrum to Glendalough the distance is about eight miles, and for this part of the excursion it will be necessary to drive. In a letter we have received from Dr. Stack, he suggests that a good pair of stout boots and a mackintosh should be found in the kit of all, and remarks that Irish weather is of that "contrary" nature that if you go out armed with a mackintosh it will never rain.

As regards travelling from England to Ireland, facilities have been greatly improved, both in speed and cost. The steamers between Holyhead and Kingstown do the sea passage in about 2¾ hours, and the whole journey from London can be accomplished in about 10½ hours. The return fare, travelling third by train and saloon by steamer, is about 50s. The connections between Scotland and Ireland have also recently been much improved.

To those who may wish to extend their holiday in Ireland, Leopardstown Races on August 21, and the Horse Show (the best in the world) August 24, and three days following, may prove attractive. Dublin will be *en fête* all that time, owing to the visit of the Duke and Duchess of York. Then those who wish to visit Killarney, Clare, Connemara, Bundoran, Portrush, and Giant's Causeway, will find railway facilities and hotel accommodation of a very high order, and good golf links everywhere, admission to which, for short periods, can be usually obtained from the local secretary, either without payment, or at a nominal rate.

It is advisable to make hotel arrangements at an early date, and for those who wish to remain in Dublin over the Horse Show it is *absolutely necessary* to secure hotel accommodation *long* beforehand.

That members will receive a hearty welcome goes without saying, and we feel sure when the account of the meeting has to be chronicled, that we shall be able to record a gathering as successful as any yet held by the Association.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Annual General Meeting.

The Annual General Meeting of the British Dental Association will be held in the Medical School Buildings of Trinity College, Dublin, on Tuesday, Wednesday, and Thursday, August 17, 18, 19 next.

Members willing to give demonstrations are requested to communicate with Mr. G. M. P. Murray, Honorary Secretary, Irish Branch, 10, Hume Street, Dublin, or the Secretaries of the respective Sections.

Members wishing to exhibit specimens or to read papers in the Microscopical Section are requested to communicate with Mr. Hopewell Smith, Hon. Secretary of the Section, Lindum House, Boston, Lincolnshire.

Certain re-arrangements of the programmes published in previous numbers of the Journal have been made, and the following summary of events may now be taken as more or less complete.

It is proposed to issue the August number of the Journal a week earlier than usual, and in that number the full Programme of the Meeting will be published.

W. B. Paterson, *Hon. Secretary.*

PROGRAMME SUMMARY.

Monday, August 16.

9 p.m.—Reception at the Royal College of Physicians, by Mr. J. J. Andrew (President of the Irish Branch) and the Reception Committee. Music.

Tuesday, August 17.

9.30 a.m.—Meeting of the Representative Board, in Registrar's room, School of Physic.

General Meeting in the Anatomical Theatre, School of Physic.

Valedictory Address of Mr. F. Canton.

Address of the President, Dr. R. Theodore Stack.

Reports of Treasurer and Hon. Secretary.

Reports and general business. Particulars will be announced later.

1.15.—Adjournment. Luncheon will be served in the Examination Hall, Trinity College, for members and ladies.

2.30.—Reading and discussion of papers till 5.

7 p.m.—Dinner to the Representative Board at the Royal College of Surgeons, St. Stephen's Green.

9.30 p.m.—Smoking Concert given by the "Odontoblasts," at the Arts Club, St. Stephen's Green.

4.30—7.30.—Mrs. Stack, Mrs. Moore and Mrs. Andrew "At Home," at Rockfield.

Wednesday, August 18.

THE MICROSCOPICAL SECTION IN ANATOMICAL THEATRE.

President: Dr. A. W. W. BAKER.

10 a.m.—Opening address by PRESIDENT. Papers, with lantern slides.

1.15 p.m.—Adjournment for luncheon.

2.30 p.m.—Microscopical Section resumed till 5.

Demonstrations in the Pathological Laboratory, adjoining the Theatre building.

9.30 p.m.—Conversazione and reception by the President of the Association and Mrs. Stack, in the Science and Art Museum, Kildare Street. Military bands, &c.

Arrangements will be announced for a visit to Johns Lane Distillery (by kind invitation of Sir John Power).

Thursday, August 19.

9.30 a.m.—Annual Meeting of Subscribers and Friends of the Dental Benevolent Fund in the Anatomical Theatre.

10.30 a.m.—Demonstrations at the Dental Hospital.

1.15 p.m.—Adjournment for luncheon.

2.30 p.m.—General Meeting.

Reading and discussion of Papers.

Adjourned business and concluding business of the Association.

7.15 p.m.—The Annual Dinner of the Association in the Dining Hall, Trinity College. Tickets one guinea.

The Ladies' Committee will take parties to various places of interest about the city, *e.g.*, The Phœnix Park and Zoological Gardens, the Cathedrals, St. Michan's Church where Handel composed his oratorio of the "Messiah," &c.

Friday, August 20.

Excursion.

A special train will leave Harcourt Street Terminus at 10.25 a.m. for Rathdrum, Co. Wicklow, where the party will be met by carriages for conveyance to the picturesque Valley of Glendalough. Luncheon will be served upon arrival in a large marquee erected in the Hotel grounds, and the return journey will be so arranged that members desirous of crossing the channel the same evening can catch the mail boat leaving Kingstown for Holyhead at 8.15 p.m. The special train will include a van for cycles, and those who travel "on the wheel" can detrain at Bray, Rathnew, or Rathdrum, and enjoy a ride through some of the most beautiful scenery of Wicklow, arriving at Glendalough in time for luncheon.

In addition to the addresses of the out-going and in-coming Presidents, Papers and Demonstrations have been promised by the following :—

Messrs. J. J. Andrew, E. H. Angle, A. W. W. Baker, F. J. Bennett, W. G. Campbell, G. G. Campion, D. E. Caush, Chance, Choquet, T. E. Constant, W. Dall, J. H. Gartrell, Grant, W. Helyar, A. Jones, R. P. Lennox, E. Lloyd-Williams, M'Wheeny, O'Sullivan, W. Booth Pearsall, T. Quinlan, S. J. Reeves, Scott, Hopewell Smith, R. T. Stack, C. S. Tomes, H. Williams, J. D. Whittles, and others. A full list will be published in the complete Programme, and in the August number of the Journal.

Special attention will be given at this meeting to the Microscopical Section, and a very large selection of the newest microtomes, apparatus for dental microscopy, lantern equipments, Röntgen Ray instruments, and all the more expensive adjuncts of a well furnished laboratory for scientific dental work will be on view and will be exhibited in actual operation.

Postal and Telegraph facilities will be afforded Members at the Secretary's office, which adjoins the meeting room. Letters and telegrams addressed to Members will be received there.

A large smoking and assembly room has been secured at the Grosvenor Hotel, Westland Row, where Members can meet after the conclusion of each day's functions. Fuller particulars will be announced later on.

THE MICROSCOPICAL SECTION.

President. A. W. W. Baker, M.D., M.Ch., F.R.C.S.I., D.D.S.

President-elect. F. J. Bennett, M.R.C.S., L.D.S.Eng.

Hon. Secretary. A. Hopewell Smith, M.R.C.S., L.R.C.P., L.D.S.Eng.

The meetings of the Microscopical Section will be held in the anatomical theatre, Medical School, Trinity College, Dublin, and will commence on Wednesday, August 18, at 10 o'clock.

The business of the Section will include the reading and discussion of papers, lantern displays by means of the electric lantern, demonstrations in the use of histological and other apparatus, and an exhibition of microscopic slides, photomicrographs, &c.

Opening address by the President.

Paper by Storer Bennett, F.R.C.S., L.R.C.P., L.D.S.Eng., "A new Method of Staining Nerve Fibres in the Dental Pulp."

Papers by F. J. Bennett, M.R.C.S., L.D.S.Eng., (*a*) "Concerning the Expansion and the Closure of the Dentinal Tubes"; (*b*) "Some Ancient Jaws of Irish Origin."

Paper by J. Choquet, D.E.D.P. (Paris), "Dental Anatomy," with lantern slides.

Paper by A. Hopewell Smith, M.R.C.S., L.R.C.P., L.D.S.Eng., "Calcareous Degeneration of the Dental Pulp," with lantern slides.

Lantern Exhibition, by Leon Williams, D.D.S., L.D.S.I., illustrating the pathology of enamel.

Lantern Exhibition, by Dencer Whittles, L.D.S.Eng., illustrating dental histology.

Paper by J. Alfred Scott, M.D., F.R.C.S.I., Professor of Physiology, R.C.S.I., "Colouring Lantern Slides for Scientific Demonstrations."

Exhibition by E. M'Weeney, M.D., F.R.C.S.I., Professor of Pathology, Catholic University, "Permanent Museum Cultures of various Micro-organisms."

Demonstration by Dencer Whittles, L.D.S.Eng., "Various Methods and Processes in use in Dental Microscopy."

Demonstration by the Hon. Secretary, on "The use of Choquet's Microtome."

Also Papers are promised by A. O'Sullivan, M.B., F.T.C.D., Professor of Pathology, University of Dublin; R. THEODORE STACK, M.D., F.R.C.S.I., L.D.S.Eng., D.M.D., &c.

Messrs. Claudius Ash & Sons and The Dental Manufacturing Company purpose exhibiting dental novelties, &c., in a manner worthy of the occasion and their reputation. The Anatomical Room, which was used for the Museum on the last occasion of the Association visiting Dublin, is set apart for this exhibition. The Detroit Dental Manufacturing Company will also exhibit their Electric Furnace in work.

A list of exhibitors and exhibits will appear later in the official programme.

LIST OF HOTELS AND LODGINGS AT WHICH VISITORS CAN BE ACCOMMODATED.

Shelbourne.
Metropole, bed, breakfast, and attendance, 6s. Per day, 10s. 6d.
Gresham, „ „ „ . 6s. (For two occupying one room, 10s.)
Morrison's, bed, breakfast, and attendance, 6s. Per day, 10s.
Maples', „ „ „ 6s. „ 10s.
Hibernian, „ „ „ 6s. 6d.
Dolphin, „ „ „ 5s. 6d.
Hamman, „ „ „ 5s. 6d. to 6s. 6d.
Jury's, „ „ „ 6s.
Central, „ „ „ 5s. 6d.
Russell's Temperance, bed, breakfast and attendance, 5s. to 5s. 6d.
Nassau, „ „ „ „ 4s. 6d.
Fanklin's, bed, breakfast, and attendance, 5s.
Grosvenor, „ „ „ 5s. 6d.
Royal Marine Hotel, Kingstown, within easy reach of town by train or electric tram.

Comfortable lodgings can be had as under :—

Lower Baggot Street.—96, and 97, Mrs. Brewster.
115, Mrs. Stone.
116, Miss Campling.
117, Mrs. Gardiner.
122, Mrs. Guy.

Upper Baggot Street.—31, Mrs. Boston.
Lower Mount Street.—71, Miss Hole.
Hollis Street.—35, and 36, Mrs. Gilbert.
Clare Street.—14, Mrs. Tuke.
Lower Leeson Street.—78, Mrs. Murphy.
Terms on Application.

COMMITTEES.

Reception.

*J. J. Andrew, *President.*
D. Corbett, Junr., *Vice-President.*

E. S. Ash.
*A. W. W Baker.
*S. J. Bishop.
W. J. Bowden.
W. Paton Boyd.
D. Corbett.
C. M. Cunningham.
V. Doyle.
L. J. Egan.
W. H. Elwood.
*G. J. Goldie.
J. McStay.
W. McStay.
*G. P. Moore.
R. F. Moore.
*K. E. O'Duffy.
*P. O'Meehan.
H. O'Keeffe.
*S. G. Reeves.
Cameron Rogers.
*H. G. Sherlock.
*D. McC. Smith.
*R. T. Stack.
J. Stanton.
F. O. Stoker.
J. F. Studley.
*J. W. Thacker.
*J. S. Thomson.
M. F. Thomson.
R. P. Thomson.
J. S. Tucker.
*H. Williams.
*G. W. Yeates.

*G. M. P. Murray, *Secretary.*

* Denotes Member of General Purposes Committees.

Demonstration.

Microscopical.—A. W. W. Baker, *President.*
Fillings.—H. Williams, *President.*
J. S. Thomson, *Vice-President.*
K. E. O'Duffy, *Secretary.*
Crowns.—G. W. Yeates, *President.*
S. J. Bishop, *Vice-President.*
G. P. Moore, *Secretary.*
Mechanical.—D. Corbett, junr., *President.*
P. O'Meehan, *Vice-President.*
G. J. Goldie, *Secretary.*
Orthodontia.—W. H. Elwood, *President.*
D. McC. Smith, *Vice-President.*
S. G. Reeves, *Secretary.*

NOTICE.

Election of Ten Members to the Representative Board.

The following gentlemen were elected members of the Representative Board in 1894, and retire in August next in accordance with the Bye-laws. They are eligible for re-election :—J. Ackery, M.R.C.S., L.D.S. (London) ; G. Brunton (Leeds) ; W. H. Coffin (London) ; H. Biging Mason, L.D.S.Eng. (Exeter) ; A. A. Matthews, L.D.S.Eng. (Bradford) ; W. H. Breward Neale, L.D.S.I. (Birmingham) ; Lawrence Read, L.D.S.Eng. (London) ; J. C. Storey, L.D.S.I. (Hull).

Nominations of candidates for election to ten seats upon the Board must be sent to the Hon. Secretary, at 40, Leicester Square, London, on or before July 24th inst., after which date ballot papers will be issued if more than ten nominations are returned. The result of the Ballot to be declared at the Annual General Meeting.

Nomination papers must be signed by six members of the Association.

The next Meeting of the Representative Board will be held in the School of Physic, Trinity College, Dublin, on Tuesday, August 17th prox.

W. B. Paterson,
Hon. Secretary.

Scottish Branch.

ANNUAL MEETING.

The Annual Meeting of the Scottish Branch of the British Dental Association was held in the Queen's Hotel, Dundee, on the afternoon of Friday, June 4. Mr. W. Bowman Macleod, L.D.S.(Edin.), the president, occupied the chair, and the others present were : Messrs. John S. Amoore (Edinburgh), W. M. Fisher (Dundee), J. Douglas Shepherd (Dundee), Peter Gorrie (Dundee), A. R. Mechan (Dundee), M. J. Macgregor (Edinburgh), Ernest J. Wallis (Alloa), J. Morris Stewart (Edinburgh), Thomas Wilson (Glasgow), Norman Macqueen (Hamilton), David M. Marshall (Stirling), John A. Biggs (Glasgow), Malcolm Macgregor (Edinburgh), P. S. Walker (Dundee), P. C. Cumming (Falkirk), James M. M'Cash (Glasgow), D. Baillie Wilson (Edinburgh), James Stewart (Coatbridge), A. H. Finlayson (Edinburgh),

T. E. Johnston (St. Andrews), W. H. Williamson (Aberdeen), W. Graham Campbell (Dundee), Walter Campbell (Dundee), C. Rees Price (Glasgow), William Taylor (Glasgow), Sewell Simmons (Edinburgh), T. Saunders Robertson (Edinburgh), John Cromar (Aberdeen), J. Leslie Fraser (Inverness), Dr. M'Ewan (Dundee), Dr. Greig (Dundee), &c.

The Hon. SECRETARY (Mr. C. Rees Price, L.D.S.Eng.), having read the minutes of the previous meeting, they were approved of.

The following members of the British Dental Association were formally proposed and seconded for membership of the Branch, and their names fall to be balloted for at the next meeting: Messrs. T. Saunders Robertson (Edinburgh), D. M'Farlane Marshall (Stirling), John Kennett Roy (Kirkcaldy), and Peter Gorrie (Dundee.)

THE SECRETARY'S REPORT.

Mr. C. REES PRICE, L.D.S.(Eng.), then read his Annual Report, which was in the following terms:—Five practitioners have been elected members of the Branch during the year, and the total membership is now 84. Four meetings have been held during the Session, at Stirling, Glasgow, and Edinburgh. The Demonstration Meeting held this Session in Glasgow was again a great success. Five Council Meetings have been held, two in Glasgow, two in Edinburgh, one in Dundee. The Council deemed it desirable to inquire into several cases of alleged infringement of the Dentists Act, and these were remitted to the District Committee, but only sufficient legal evidence was forthcoming in two cases, those of Elmslie and Black. These were taken up by the Executive in London, and were found guilty by the Sheriff, convicted, but Elmslie has appealed to the Court of Session. A case at Paisley was privately prosecuted before the West District Committee could institute proceedings, and was unfortunately dismissed on a technical point. One case in Glasgow was taken up by the Executive in London, and the man was found guilty and fined. The District Committees have given attention to all cases presented to them for consideration, and in many instances the mere statement that the evidence is insufficient does not represent adequately the time and consideration given to these cases. The District Committees have again been successful in obtaining permission to see the proofs of the professional dental lists in the Edinburgh and Glasgow Directories, and in both cases thanks are due for the courtesy of the respective editors.

THE TREASURER'S REPORT.

The reading of the Treasurer's Report was the next business on the agenda paper.

The CHAIRMAN said: I am very sorry indeed to have to announce that Mr. Wilson, our Hon. Treasurer, owing to illness is unable to be present, and I have no doubt you will be grieved to hear it. He is at present confined to bed and will probably be so for some little time to come, but I have no doubt that if sympathy and good wishes could make a man well, Mr. Wilson would be out of bed to-morrow. His books are beautifully kept, and I am glad to say that his account is a very good one, the balance in hand being £35 1s. The accounts have been duly audited by Messrs. Robert Lindsay and Sewell Simmons. I would now beg to move, gentlemen, the adoption of the Secretary's and Treasurer's Reports. I need not say any more about them at the present time, because they are all self-explanatory and thoroughly satisfactory.

Mr. WM. FISHER seconded, and the motion was unanimously agreed to.

ELECTION OF OFFICERS FOR 1897-1898.

The following were elected office-bearers for the ensuing year:— *President:* C. Rees Price, L.D.S.Eng. (Glasgow); *Vice-Presidents:* Wm. Fisher, L.D.S.Eng. (Dundee); Wm. Taylor, L.D.S.Glas. (Glasgow); *Hon. Treasurer:* Andrew Wilson, L.D.S.Edin. (Edinburgh). *Council:* Retire in 1898: J. S. Amoore, L.D.S.Eng.; W. Campbell, L.D.S.Eng.; John Dunlop, L.D.S.Eng.; Alex. Nasmith, L.D.S.Glas. Retire in 1899: H. B. Ezard, L.D.S.Edin.; W. H. Gray, L.D.S.Glas.; F. J. Turnbull, L.R.C.P. & S.Edin., L.D.S.Edin.; E. R. Wallis, L.D.S.Edin. Retire in 1900: W. G. Campbell, M.B., C.M.Edin., L.D.S.Edin.; W. B. Macleod, L.D.S.Edin.; James Stewart, L.D.S.Glas. (Coatbridge); Thomas Wilson, L.D.S.Glas. *Hon. Secretary:* D. Baillie Wilson, L.D.S.Edin. (Edinburgh).

RETIRING PRESIDENT'S ADDRESS.

The retiring President, in his address, said he wished to thank them for the kind consideration and support which they had shown him during his term of office. Looking back, they could really see that the British Dental Association and the Scottish Branch of it had both progressed favourably during the past years. Possibly not so quickly nor so broadly as most of them would wish, but to those who were acquainted with the practical issues of life, and the difficulty of making progress, quite as fast as could be reasonably expected. The Association had had a long uphill battle to fight, but he thought they had now about reached the summit of their difficulties, and that now the air would begin to clear, and that they would see their way in a very short time to a greater uplifting of the profession. Mr. Macleod next referred to several cases in which the Association had undertaken the prosecution of persons offending against the Dentists Act, and to the success which in several instances had attended their efforts to have none but qualified practitioners in their ranks. During the past year in Edinburgh they had had two prosecutions, and convictions had been obtained in both cases. One had appealed to a higher Court, and he believed the hearing of the case would come on on Monday or Tuesday of next week. There had also during the past year been considerable progress on the part of the Medical Council. They had attended much more closely to the dental section, and had really come to recognise it as of equal importance with the older medical faculty. Regarding the change of curriculum recommended by the Medical Council, it had been, on the motion of Dr. Patrick Heron Watson, remitted to the various licensing bodies to get a report of their opinion in the matter. It would be well, he thought, for the lecturers and teachers in the Glasgow School and the Edinburgh School to pay some attention to this, and not to let the matter slip, but see that their views on dental education were attended to. They had no reason to doubt the capability of the Council of the licensing bodies of Glasgow and Edinburgh to frame a curriculum. It possibly might be the best curriculum that could be framed, but at least it would be more satisfactory to put the matter before the men who were engaged in the work of the School and the Hospital. They ought to send a joint representation to the two licensing bodies, and if they had any different views they should urge these views in the hope of getting a thoroughly good working educational curriculum. He thought they would all agree that what had been done indicated a very good show of work.

Mr. C. REES PRICE then took the chair and said: Gentlemen, my first duty is a very pleasant one. It is to ask you to pass a vote of thanks to our retiring President and the other office-bearers. No words of mine are required to emphasise this. I am very glad to be able to say, however, that our retiring President is still going to take as keen an interest in the affairs of the Branch as ever he did. We part with the retiring office-bearers with very great regret, and I am only expressing your opinion, I am sure, when I say we are all very much obliged to them.

PRESIDENT'S INAUGURAL ADDRESS.

Mr. C. REES PRICE then said :—

Gentlemen,—I have to thank you for the honour you have done me in electing me to the position of President of the Scottish Branch. It may be assumed that in this you have shown your appreciation of the work which I have done on behalf of the dental profession, of the British Dental Association, and of the Scottish Branch in particular. The work has been to me a labour of love, though it has involved many hours of hard work—work which has been considerably lightened by the unvarying kindness, courtesy, and material help which you, as individual members, have always extended to me. I must confess that I am not sorry that the time has arrived when you have deemed it desirable, and I have thought it possible, that I should occupy a less arduous position in the Branch. You have to-day elected a new Hon. Secretary in the person of Mr. D. Baillie Wilson. He was suggested to the Council by our ex-President, and that is, I think, sufficient guarantee. But I believe Mr. Baillie Wilson is new to this kind of work, and as I myself have had many years' experience in it, and know something of the trials and difficulties of the office, I would ask you to extend to Mr. Baillie Wilson a similar generous forbearance and a similar material help as you have ungrudgingly given to me in the past.

Reviewing the past two years one is entitled to assume that from every point of view the union of the two Scotch branches has been a complete success. The demonstration meetings have hitherto been a most successful feature, the ordinary meetings have been well attended, and in point of membership great progress has been made. In 1895, before the union of the two Scottish branches, the joint membership was but sixty-four. To-day the membership of the Scottish Branch is eighty-four. And in view of the fact that in the nine years since 1888 the Dental Register in Scotland has only been increased by twenty-two names, this rate of progress cannot but be deemed satisfactory. Looking over the names of men on the Dentists' Register as practising in Scotland, we find that most of those who from their position would be likely to join the British Dental Association have already done so, and therefore we must look to the young men who are passing into practice for our future increase of membership, which must thus necessarily be slow. Some of you may remember that nine years ago, in 1888, at a meeting of the East of Scotland Branch, I read a paper comparing the Dental Registers of 1879 and 1888, so far as Scotland was concerned. I thought it would be interesting to-day to review our position—nine years later. I shall do this very briefly, and I trust to bring out some interesting details. The following Table will enable you to easily make the comparisons.

It will be noticed, first of all, that while the total number of practitioners registered still shows a yearly decrease, the number registered as practising in Scotland has *increased* from 314 in 1888 to 336 in 1897—a gain of 22. The number of men holding the licence in Scotland was 83 in 1888. In 1897 the number is 117—an increase of 34. Further, while the percentage of dental licentiates to the total number registered is 31·25 per cent. the percentage in Scotland is about 35 per cent., a higher ratio and one which is exceedingly gratifying. And while the ratio has increased over the whole kingdom from 20 per cent. in 1888 to 31·25 per cent. in 1897, it has increased in Scotland from 21 per cent. in 1888 to 35 per cent. in 1897.

	1888.	1897.	L.D.S.	In Practice with Pharmacy.	Dentists in Practice before July 22, 1878.
Aberdeen	19	18	5	3	10
Airdrie	2	2	—	2	—
Alexandria	—	1	—	1	—
Alva	1	1	—	1	—
Alloa	1	1	1	—	—
Annan	—	1	—	—	1
Arbroath	1	1	—	—	1
Ardrossan	1	1	—	1	—
Auchtermuchty	—	1	—	1	—
Ayr	4	3	1	—	2
Banff	2	2	—	2	—
Baillieston	1	1	—	1	—
Berwick	2	1	—	1	—
Bo'ness	1	1	—	—	1
Burntisland	—	1	—	1	—
Brechin	2	2	—	—	2
Buckie	1	1	—	1	—
Campbeltown	—	1	—	—	1
Coatbridge	—	1	1	—	—
Cupar-Fife	2	1	—	—	1
Castle-Douglas	1	1	—	1	—
Dalkeith	1	1	—	1	—
Dingwall	1	1	—	—	1
Dumbarton	2	1	—	—	1
Dunfermline	4	4	—	2	2
Dumfries	3	4	4	—	—
Dunse	1	1	—	1	—
Dundee	13	13	6	1	6
Dysart	1	1	—	1	—
Edinburgh	67	80	40	11	29
Elgin	4	4	3	1	—
Fraserburgh	1	1	—	1	—
Falkirk	1	1	1	—	—
Glasgow	92	93	37	*10	†46
Greenock	6	4	—	—	4
Grantown	1	1	—	1	—
Greenlaw	1	1	—	1	—
Hamilton	1	2	—	—	2
Hawick	1	1	—	—	1
Inverness	4	6	3	3	—
Carry forward		263	102	50	111

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* Two practise Dentistry only; 3 as Chemists and Dentists; 1 as Manufacturing Chemist; 4 no information.

† Five have the L.D.S., but have not registered the diploma.

	1888.	1897.	L.D.S.	In Practice with Pharmacy.	Dentists in Practice before July 22, 1878.
Brought forward	—	263	102	50	111
Irvine	1	3	2	1	—
Inverurie	1	1	—	1	—
Kelso	2	2	—	1	1
Kilmalcolm	1	1	—	1	—
Kilmarnock	2	3	2	—	1
Kirkcaldy	3	2	1	1	—
Keith	1	1	1 D.D.S.	—	—
Largs	2	2	—	1	1
Langholm	1	1	—	1	—
Leith	3	6	2	1	3
Lerwick	1	1	—	1	—
Lochee	2	2	—	2	—
Lochgelly	1	1	—	1	—
Markinch	1	1	—	1	—
Montrose	2	3	1	—	2
Musselburgh	1	1	—	1	—
Nairn	—	1	—	1	—
New Deer	1	1	—	1	—
Oban	—	1	—	—	1
Paisley	8	9	—	1	8
Peebles	1	1	—	1	—
Perth	6	6	2	—	4
Peterhead	3	2	—	1	1
Port-Glasgow	2	2	—	1	1
Portsoy	1	1	—	1	—
Prestwick	—	1	1	—	—
Roseneath	—	1	1	—	—
Rothesay	1	1	—	1	—
St. Andrews	1	2	1	1	—
Sanquhar	1	1	—	1	—
Selkirk	1	1	—	1	—
Stirling	4	4	2	—	2
Stranraer	2	1	—	—	1
Strathaven	1	1	—	1	—
Saltcoats	1	1	—	1	—
Tain	—	1	—	1	—
Uddingston	1	1	—	—	1
Wick	2	2	—	2	—
Total	314	336	117	80	138

COMPARISON BETWEEN THE DENTAL REGISTERS OF 1879, 1888 AND 1897.

	1879.		1888.		1897.	
L.D.S....	26	7·58	65	20·70	117	34·82
In Practice with Pharmacy ...	126	36·73	83	26·43	80	23·81
In Practice before July, 1878..	191	55·69	165	52·55	138	41·07
D.D.S.	—	—	1	·32	1	·30
	343	100·00	314	100·00	336	100·00

The Number of Practitioners on the Register	5289	4899	4860
Dental Licentiates	9·13%	19·94%	31·25%

This ratio would be still higher but for the fact that in Glasgow (and possibly elsewhere) dentists have not thought it worth while to pay the necessary 5s. to register the required diploma. The total of 336 does not represent the whole number of those practising dental surgery in Scotland. In Glasgow and other places there are several men holding a medical as well as a dental qualification, and practising as dental surgeons, who are not on the Dentists' Register. Two of these are members of the British Dental Association and of the Scottish Branch. As regards the table for 1897, the comments would be similar to those I made on the table prepared in 1888, and I would refer any one interested to the Journal for that year. But you will notice that those registered as practising with pharmacy have fallen from 83 in 1888 to 80 in 1897—a decrease of 3 only in nine years. I have taken the trouble to inquire about the 10 registered in Glasgow as in practice with pharmacy; you will see that concerning four I can obtain no information. They are not at the addresses indicated, and in fact, in two cases the addresses do not exist, and I am strongly inclined to the opinion that if the Registrar of the General Medical Council were to put in force clause 13, it would be found that many of these men had ceased to exist. The last general revision of the Register was, I think, in 1887—chiefly undertaken at the instigation of our old friend, Mr. Waite. It is a matter for the Council of the Scottish Branch to say whether it should content itself by bringing before the Registrar of the General Medical Council the names of those persons about whom information is deficient, or whether it should not urge on the Representative Board the necessity of a general revision of the Dentists' Register under clause 13. It will be noticed that in the last nine years the number of registered practitioners in Edinburgh has largely increased, viz., from 67 in 1888 to 80 in 1897. And the number of licentiates has increased from 16 in 1888 to 40 in 1897—has, in fact, more than doubled itself. Of the 28 names added to the Register since 1888 as practising in Edinburgh, 25 have the dental diploma. This is eminently satisfactory to the Metropolis of Scotland, and speaks volumes for the high level of the dental profession in that city. Curiously, Glasgow has only increased its total register by 1 during the last nine years. The number of licentiates has risen from 24 to 37. But of the total number registered since 1888 as practising in Glasgow—viz., 21—only 12 have the dental diploma. Up to 1891 the General Medical Council still registered men under clause 37, and it was to be expected in a city so largely industrial as Glasgow, that there would be a larger proportion of men anxious to avail themselves of that clause.

In eighteen years the percentage of dental licentiates has increased from under 10 per cent. to nearly one-third. This is extremely gratifying to those who have the welfare and standing of the dental profession at heart. It is possible that as the Scotch Licensing Corporation have decided not to examine any further candidates *sine curriculo*, the ratio of increase may be slower. But the Register is rapidly being regenerated by a natural process. And this rapidity is, I think, a sufficient answer to those who would endeavour to hasten a natural process by a course of costly and probably non-efficient litigation to be undertaken by the British Dental Association.

It is now twelve years since a dental meeting was held in Dundee, the defunct East of Scotland Branch meeting on June 5 of that year under the chairmanship of our esteemed colleague, Mr. Walter Campbell. Since this date the only registered woman dentist in Scotland, Mistress Elizabeth Laird, of Monifieth, has passed over to the majority, or has ceased to be on the Register—a fact I have thought worth recording. But since 1885 the history of the British Dental Association, and of dental surgery in Scotland, has been one of continual progress toward that higher professional goal which is dear to all who have the welfare of their profession at heart. If, in Dundee, this progress has not been so marked as elsewhere, no one would for a moment call in question the earnestness or the high standard of the qualified practitioners in the Tayside city. But here the concomitance of circumstances is peculiar, and a section of the press, not free from a particular bias, has been aided by the extraordinary views of a judge, and thus a condition of things has been brought about which apparently offers a good forcing ground for the non-qualified individual. I cannot but believe that time and a better knowledge of the aims of our Association will bring the good people of Dundee to see that our efforts in enforcing the conditions of the Dentists Act of 1878, are not to protect ourselves, but to protect the community.

The work of the British Dental Association and its branches may be roughly said to be threefold :—Scientific work, the enforcement of the provisions of the Dentists Act, and the moulding of the education of the future practitioners of dental surgery. I claim that the Hon. Secretary's Report shows that in the first two matters the Scottish Branch has amply fulfilled its duties during the past year. A wave of prosecution has spread over the country, and many practitioners, not satisfied with the cautious system of the Executive of our Association, have initiated prosecutions either alone or in combination. To my mind the results have been far from satisfactory. In many instances, owing to want of knowledge of the working of the Act of 1878, and of its possibilities, failure has of necessity ensued. And this has intensified, and—if justification were needed—has justified, the cautious, if slow, policy of the Executive of the British Dental Association. In the work of education I believe the Association and the Branches might have done more. But possibly two reasons have militated against this; (*a*) That the profession are by no means unanimous as to the particular lines on which a levelling-up is desirable, and (*b*) the profession has very little influence—practically none—directly over the corporations granting the dental diploma. These corporations take the fees required for examination and grant the successful candidates their diploma, but there the connection seems to end. True, pressure has been brought to bear on the General Medical Council, with the result that an inspector was appointed to report as to the examinations for the dental diploma, with certain useful results. But I am of opinion that it might be a useful—nay, a desirable thing—for the Scottish Branch to endeavour to influence the two corporations in Edinburgh and Glasgow. Such influence has been working in London, with the result that the College of Surgeons of England has considerably amplified the conditions for obtaining its dental diploma. Many of you may know that the Dental Committee of the General Medical Council called the attention of the Council to the fact that though England and Ireland have each a single corporation granting the dental diploma, Scotland possesses two—the College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow. Here is, I think, an instance where the Scottish Branch, through its Council, might usefully try its influence. Quoting from the Dentists' Register of 1897, I find that the English College added 73 dental licentiates during 1896, the Edinburgh College 15, and the Glasgow Faculty 8, while the Irish licentiates have decreased by 2. If the English College can add 73 to the registered licentiates in one year, it does seem an anomaly that Scotland requires two licensing corporations to add 23.

A case occurred eighteen months ago in Glasgow, of a young man duly serving a three years' apprenticeship to two dental surgeons in Glasgow, and afterwards proceeding to Michigan, U.S.A. After attending the dental course required there, he obtained the D.D.S., a diploma which is not recognised by the General Medical Council of this country. On returning to Glasgow he enquired if it would be possible, on his apprenticeship here, and the schedules of attendance at the various lectures and practical work at Ann Arbor, to enter for the dental diploma. In result on attending, I believe, a further course of surgery in Glasgow, he was admitted to the dental examination and finally obtained the diploma. This illustrates a further matter in which I think the Scottish Branch and the Association generally might use its influence. The Universities and Medical Corporations are not merely content that a candidate can pass the examinations required, but they go back a step further, and accept only the schedules of the lecturers of their own staff, or of recognised teachers. And for practical work and clinical teaching, a hospital and school must have certain minimum requirements. But for the dental diploma there seems to be no such minimum. All dental hospitals are not of the same efficiency—some are very much less so, as regards teaching capacity, than others—and no attempt at a minimum standard has ever been made Obviously, this is not favourable to a high standard of professional excellence, and it is more obviously unfair to the dental student. Again, as regards dental pupilage. As long as the practitioner is on the Dentists' Register his certificate of three years' pupilage is accepted. He may be incapable of imparting knowledge to his pupil, not from want of it, but from sheer inaptitude. The class of work he may do is so limited that the pupil is not really properly grounded in the essentials of his profession. This I am afraid is far commoner than is perhaps realised. The English College, under its new regulations, insist on a course of practical dental mechanics, including the manufacture and adjustment of six dentures and six crowns. This implies a certain definite standard of work on the part of the practitioner or of the hospital school, and must be hailed as a step in the right direction. I believe in Scotland the two Colleges require a practical examination, but whether it is as definite as this I know not, but I think not. Here is offered scope for the influence of the profession in Scotland. A licensing corporation insisting on this mechanical standard *must* see that the school whose schedules it accepts has teaching capacity up to that standard. This is obviously only fair to the possible student. And this would mean the recognition of the superintendent of the mechanical department of a dental hospital as one to whom the student could be regularly articled. This is as far as it is possible to go at present, and is the only method of reaching the incompetent practitioner. These are the lines upon which the English College has gone in its new regulations, and this is the direction in which I think the other licensing corporations and dental schools must tend in the future.

ELECTION OF MEMBERS TO REPRESENTATIVE BOARD.

Mr. J. S. AMOORE said "he was sure they could not do better than ask Mr. W. Bowman Macleod, their late President, to represent them on the Representative Board. They all knew how deeply interested he was in matters affecting the profession, and he now proposed him with great confidence.

Mr. J. A. BIGGS seconded, and the motion was carried unanimously.

Casual Communications.

Dr. MacEwan (Dundee) showed a boy, 10 years of age, who was born with harelip and a cleft of both the hard and soft palates. A few weeks after birth the harelip was operated on, and at the same time the right maxillary bone, which projected too far forward, was fractured and displaced backward so as to bring its alveolar border into line with that of the opposite side. The cleft in the hard and soft palates was closed by operation when the patient was 4 years of age. Complete union had been obtained, and the cleft in the hard palate had become filled up by bony tissue. Notwithstanding the success of the operation there was, as one frequently finds in such cases, some nasal intonation of the voice. He also showed a girl, 14 years of age, on whom he had operated for osseous anchylosis of both temporo-maxillary articulations. When 5 years of age she sustained a fall upon the chin ; arthritis of both joints ensued, and since then she had been unable to separate the teeth, and had subsisted entirely on fluid nourishment. As the result of the operation she had now free movement of the jaw, with ability to separate the teeth to the extent of fully an inch.

The following is the method of operation which he recommended:—An incision is made over the articulation parallel with the zygoma, the fibres of the masseter separated from the bone and cleared downwards so as to expose freely the neck of the jaw. The neck is then divided at its base with a narrow saw or bone forceps, and the anchylosed condyle is separated by means of the chisel. It is essential to the success of the operation that a sufficient amount of bone be taken away ; and if, owing to the limited extent of available space, difficulty be found in using the saw or bone forceps, a portion of bone may be removed by means of a small trephine from the sigmoid notch, and then the division of the part of the neck remaining will be very easily effected. In some cases it may be necessary to remove the coronoid process.

He then made some remarks upon the causation of neuralgia of the fifth nerve, and stated that in cases where the pain was intolerable, and where ordinary remedies had failed, neurectomy, or excision of a part of the affected nerve, was the best form of treatment. He related three cases on which he had performed neurectomy for neuralgia of the inferior dental branch. The first patient experienced immediate relief, but as he was lost sight of afterwards it is not known how long the benefit lasted. The second patient remained free from pain for three years ; and the third had three months of complete, and two years of partial, relief. The operation he performed for exposing the nerve was that of Horsley, which consisted in deepening the sigmoid notch of the lower jaw by means of the trephine. It gave free access to the nerve, which could then be traced upwards and divided near its exit from the base of the skull. Through the same opening the gustatory nerve, which is not infrequently affected along with the dental, could be dealt with at the same time. The relief afforded by neurectomy is usually temporary, and lasts for periods varying from three months to three years. Removal of the Gasserian ganglion gives more permanent relief than neurectomy, and can consequently be resorted to when the latter fails, or when several branches of the nerve are affected, and the disease is intractable to ordinary treatment. It has, however, a considerable mortality which must be taken into account in recommending it to the patient.

Mr. W. CAMPBELL (Dundee) showed a case of lupus connected with the superior maxilla, and said : This lupus patient has come a long way to show himself to this Society. It is a most interesting case. It was a marvel to him how he could not only keep this large plate, taking the place as it did of the whole maxilla and dental structures, but was able to speak distinctly, and eat and smoke with comparative ease and comfort.

The plate has been gradually enlarged as the teeth and bone gave way. This model shows the state of the mouth eight years ago, when he brought it before the Odonto-Chirurgical Society. There is a duplicate model of this one in the Society's museum, and a description of the case in the Transactions. You will notice how ingeniously the patient has from time to time added white gutta-percha to the upper surface of the plate as the bone was removed. While this has added considerably to the weight, it has admirably answered the purpose. I propose making an exact, duplicate of this in vulcanite, having the interior quite hollow.

The case was examined by the members, but there was no time at the disposal of the meeting for remarks.

Mr. W. M. F. FISHER (Dundee) read the following communication on his method of working an orphan school to which he is dental surgeon :—

I have just completed a three years' practice of keeping the Dundee Orphan School in order, and I thought it might interest you to give you my experience. I was waited on by a director of the Institution, who told me that their medical officer informed the directorate that they ought to get a dentist to keep the mouths of the children in order. I was asked what remuneration I would require, and I was also informed that the doctors' honorarium was ten guineas, and the directors would not care to give the dentist more than they gave them, and that they had also called on two other dentists who had offered to keep the children right, if they were sent to them where they practised, for the sum mentioned. I told the acting director that I would not follow that method, but should inspect and treat every child at the home, and endeavour, as far as possible, after I got them in order, to base my treatment on prevention. I was offered the appointment of keeping on an average some sixty to seventy children's teeth in order, with an honorarium of 10 guineas and an allowance of five guineas for materials—in all 15 guineas. My operating chair is a low set, horse-hair covered easy chair—by no means easy to me—but I have worked away with it after the answer I received from a director, to whom I stated the necessity for a dental operating chair, "So you want to kill the appointment, do you?"

My first year's report to the directors reads thus:—"I have extracted 139 teeth, this embracing temporary and permanent teeth; this is a large number, but it is the outcome of previous neglect, and much of this number means a judicious thinning to meet overcrowding and reduce irregularities. I have done ninety-six fillings of a good class and suited for tear and wear. Two of the outgoing girls having as many as eleven and thirteen fillings in their teeth, and to one I had to give three artificial teeth. I have administered gas in 13 cases where I thought it necessary, besides attending to a few cases of acute abscess which were sent to my house. I have endeavoured in almost every case to instruct the children in the use of their teeth and the necessity of keeping them absolutely polished. Before taking the appointment I asked that each child should be supplied with a toothbrush, and I asked the Matron to teach the use of soap as a dentrifice, and nothing else. The Matron, or one of her staff, looks over the brushes every morning after ablutions to detect a dry brush, but there seems little trouble that way now."

My second Report ran thus:—"I have removed 40 temporary teeth and 35 permanent teeth—about half of the previous year; I have produced anæsthesia by gas in 5 cases. I have filled 232 cavities of decay in the children's teeth; two cases I have scaled from an overgrowth of tartar, and for irregularities and over-crowding; beyond the extractions I have inserted a few wedges and rubber bands to get the teeth into their normal positions. I have also removed a few fillings after insertion where pain supervened; treated and refilled and otherwise done what I have seen necessary in my professional capacity."

My third Report, 1896-97, is almost a repetition of the former. "Sixty-one extractions—the number embracing temporary and permanent—every root, or isolated piece in the mouth counting as one, 8 gas cases and 210 fillings—not teeth, but fillings—and 1 regulating case, to jump the bite in the two upper laterals."

Now, gentlemen, a few words more to show you what can be done in an afternoon. On May 28 last I went to the Institution with my ordinary paraphernalia, consisting of my gas case, forceps, excavators, rotary roseheads, &c. — you will observe, no dental engine—and a lad aged 15, who does nothing but keep the book, mix Sullivan, and keep up the supply of my little orphans. I got started about 3 p.m., had a break at 5.30 for tea, brought in to me and my lad; started again and stayed till about 8.30, and this was my afternoon's work. I did 79 permanent fillings, or rather permanent teeth, mostly in Sullivan, but never where it would show —in these cases always a modern white amalgam—and 26 fillings in temporary teeth. Gave gas once, extracted left six-year-old molars, upper and lower, and only one other permanent tooth. I extracted 4 temporary roots, and a gemination temporary tooth. Here in this afternoon, I did 104—in every way permanent—fillings, gave gas once, and did from 7 to 9 extractions, besides seeing many others, with a little advice here and there, and 2 scaling cases. There is nothing formidable about all this, I was just busy and active, but I have now got to what I was working for. I have the teeth of the school under my control, and the forceps are never used where other measures can prevail. I visit the school only once every three months. I should have liked the Scottish Branch of the British Dental Association to have inspected the teeth of the children, but it did not seem practicable on the Friday, and the children are scattered on Saturday morning to their respective friends.

First Year.	*Second Year.*	*Third Year.*
96 Fillings.	232 Fillings.	210 Fillings.
139 Extractions.	75 Extractions.	61 Extractions.
13 Gas Cases.	5 Gas Cases.	8 Gas Cases.
3 Artificial Teeth.		1 Regulating Case.

The outstanding point in the mouths of the children of the Dundee Orphan Institution is the effort made to keep the teeth of the school in the same healthy condition as their general physical life. In this I have been ably supported by the management, and now I can say for these orphan children that their teeth are kept in the same *polished* conditions as their bright surroundings.

VOTES OF THANKS.

The PRESIDENT in a few words tendered his thanks and that of the Branch for the interesting remarks made by Drs. MacEwan and Greig, and Mr. Fisher, and on the motion of Mr. Walter Campbell, these gentlemen were heartily thanked for their services.

THE DINNER.

The Annual Dinner of the Branch was held in the Queen's Hotel, in the evening. Mr. W. Campbell occupied the chair, and Mr. Wm. Fisher was croupier. After the usual loyal and patriotic toasts had been cordially drunk, Dr. MacEwan proposed "The British Dental Association and the Scottish Branch," to which Mr. C. Rees Price, the President, replied. "Our Guests" was given by Mr. Leslie Fraser, and responded to by Dr. Lennox; "The Chairman," was proposed by Dr. Williamson, and "The Croupier," by Mr. J. S. Amoore; and Mr. W. B. Macleod proposed "The British Medical Association," which was responded to by Dr. Duncan, President of the Forfarshire Branch.

On Saturday the members enjoyed a drive through the beautiful policies of Rossie Priory and Kinnaird Castle, lunching in the grounds under the shadows of the castle ruins. A very pleasant day was spent.

Southern Counties Branch.

THE Annual Meeting was held at Croydon on Saturday, June 19.

The Members of the Council met at the Municipal Buildings at eleven o'clock, and at one o'clock lunched at the Greyhound Hotel, by kind invitation of the President-elect, Mr. Morgan Hughes.

At two o'clock the General Meeting was held in the Council Chamber of the Municipal Buildings.

Amongst those present were Messrs. J. H. Redman (Pres.), Morgan Hughes (Pres.-elect), J. F. Rymer and R. Walker (Vice-Pres.), F. Canton (Pres. B.D.A.), E. Lloyd-Williams, W. H. Dolamore, Stephen Hoole, H. J. Kluht (London); J. H. Whatford, J. C. Foran and W. Barton (Eastbourne); Lawrence Read (Newbury ; H. Beadnell Gill (Norwood); J. H. Reinhardt (Brixton); J. O. Richards (Richmond); J. H. Bowden (Reigate); F. H. Ellwood (Redhill); F. R. Flintan (Weybridge); Arthur King (Guildford); C. S. Reed (Folkestone); J. F. Rymer, John Wood, W. N. Wood and F. V. Richardson (Brighton); B. A. Williams, E. H. Field and J. Bennison (Croydon); F. Bell and J. Maxwell (Tunbridge Wells); F. J. Dumayne (Sec.), and others.

The PRESIDENT occupied the chair, and on the motion of Mr. FORAN, seconded by Mr. ELWOOD, the minutes of the last meeting were adopted.

THE SECRETARY'S AND TREASURER'S REPORTS.

The HON. SECRETARY (Mr. Richardson), read his Annual Report, which was as follows :—

Your Council has again the pleasant duty of congratulating the branch on its continued prosperity, it now for the first time in its history numbering over a hundred members, eleven having joined during the year.

Four meetings have been held ; the Annual at Maidstone, when we had a paper from Mr. Beadnell Gill, on the "Advisability of Branches conducting their own Prosecutions." The Autumn Meeting was held at Guildford, when Mr. Gill's paper was fully discussed, and a paper was read by Mr. Vernon Knowles on "A Simple Method of Making Collar Crowns." At the Winter Meeting held at Southampton we had papers from Mr. A. T. Croucher, on "Small Helps in Every-day Practice," Mr. Charles Foran on "Advertising," and Mr. J. F. Rymer on "Dead Teeth.' The last meeting of the year was held at Brighton, when demonstrations in gum enamel and porcelain work were given by Mr. J. H. Gartrell and Mr. Harry Rose.

In conclusion, your Council recommend Mr. J. C. Foran, L.D.S.I., as President-elect for 1898, and that the Annual Meeting be held at

Eastbourne in June, 1898, and meetings at Reading in October, 1897, Brighton in January, 1898, Ramsgate in April, 1898.

FRANK V. RICHARDSON,
Brighton. *Hon. Sec.*

The TREASURER (Ald. S. L. Rymer, J.P.) presented his Report, observing that at their last meeting attention was called to the many arrears which existed, and this was no doubt attended with inconvenience. When he had the honour to be elected as Treasurer, he made up his mind he would try and show his gratitude to Mr. Redman by getting these arrears cleared off, if possible, and at the present time he was glad to say there were no arrears at all. Since they last met at Maidstone the Council had come to the conclusion that for various considerations it would be desirable that the accounts, instead of being made up to June, should be made up, as they were with the Parent Association, to the end of the year, and therefore the account he now presented would be for the six months ending December 31, 1896.

The Treasurer then read an abstract of the accounts.

Mr. MORGAN HUGHES moved the adoption of both Reports. They had, he observed, endeavoured to meet as large a circle of their friends as possible by going in one direction to Reading, holding a central meeting at Brighton, and on the east at Ramsgate. This, with the Annual Meeting next year at Eastbourne, seemed to him a very fair division of their meetings. With regard to the Treasurer's Report, he thought the results shown by Alderman Rymer were unique. He (Mr. Hughes) knew Alderman Rymer had devoted a good deal of personal attention to waking up members; the results were surprising, and he thought they all owed him a debt of gratitude for putting them in so satisfactory a condition.

Mr. WILLIAMS had very much pleasure in seconding the Reports, and especially with regard to the Treasurer's, for the accounts were put in such a simple manner that he had practically no trouble in seeing that they were correct.

The Reports were adopted.

Dr. REDMAN then delivered his Valedictory Address.

VOTE OF THANKS TO RETIRING PRESIDENT.

Dr. WALKER said he had been requested to ask them to give their retiring President a hearty vote of thanks for his capital, hearty, genial, and thorough performance of the duties of the presidential chair for the past year, also for his able address to-day. He coupled with that vote of thanks one to the officers of their branch. There were really one or two very encouraging points in the Branch reports. First of all they were absolutely out of debt, and secondly, they numbered now more than one hundred members, and if each one of that hundred would introduce a member by this time next year, it would redound to the presidential honour. He did not think it was asking them too much to bring a friend, and if they would only do so they were sure to get him as a member. He had very great pleasure in proposing this vote of thanks. He had known Mr. Redman as long as he had been in Brighton, and nowhere did he know anyone more genial.

Mr. WILLIAMS seconded, remarking that he was sure the way Mr. Redman had conducted the business of the Branch was everything they could wish for.

The resolution having been carried, Mr. REDMAN thanked them all very sincerely for the very kind way in which they had responded to the motion of Dr. Walker. He could assure them the work he had done had been *con amore*, and he could only say he was very much obliged to them all for the kind way in which they had helped him to carry on the work of the Branch.

THE PRESIDENT'S INAUGURAL ADDRESS.

Mr. MORGAN HUGHES then delivered the following Inaugural Address :—

GENTLEMEN,—This seems to me an occasion when it is necessary for me to offer you my sincerest sympathy. It is stated on the programme that I am to deliver an Inaugural Address, and in accordance with the dictates of the tyrant custom, which ordains that all self-respecting scientific or professional societies shall annually submit to an ordeal of that nature from the mouths of their Presidents, I very reluctantly obey. I look upon this task as a penance for my presumption in so lightly accepting an office, the duties of which I feel myself incompetent adequately to carry out, and must ask for my shortcomings the indulgence of the too kind friends who placed me in this position of honour.

Without further preface I will, therefore, welcome you once more to Croydon. It is only ten years since we held our first Annual Meeting here, following the Inaugural Meeting of the Branch in the previous year at Brighton. We met then in the Public Hall with our first President, our good friend, Samuel Lee Rymer, in the chair. We meet now, thanks to the kindness of the Corporation, in this new and magnificent Town Hall, of which Croydon I can assure you is very proud. It seems unnatural that any meeting of dentists should be held in Croydon at which Mr. Rymer is not presiding, but it gives us the opportunity of assuring him that his past services to the dental profession, more especially his work in the cause of dental reform, will never be forgotten by dentists who know anything of their history as a profession. He may be said to have started rolling the ball of dental reform by a memorable letter to the *Lancet* in 1855, in which he called attention to the great abuses then existing in the dental profession, and suggested the remedies necessary for an intolerable state of things. In that letter he advocated the institution of an examination by the College of Surgeons for the title of licentiate in dental surgery, and the formation of a Dental College for the instruction of the candidates for that diploma. He followed that up in 1856 by calling together the first public meeting of dentists to take counsel together about the condition of the profession. From that time forward Mr. Rymer devoted a very large part of his time and energies to helping forward the organisation of the profession, and for that devotion he has earned our undying gratitude. He, with others, recognised the great fact that union is strength, and the progress we have made during the last forty years in professional knowledge, and our consequently increased usefulness to society, is largely due to that union.

We sometimes hear men say that they do not see the good of joining the British Dental Association. They can never have realised the state of things prior to the organisation of the profession and the impossibility of real progress in dental knowledge when each man was fighting for his own hand and kept what little knowledge he possessed for the benefit of himself, his pupils and his friends. Any retrospect of our history would surely convince the men who stand aloof from professional society that the improvement in our methods upon which we pride ourselves to-day could only have been attained by an Association or Associations of Dentists who would frankly interchange their ideas, and who would consider together the various means of raising the status of the profession.

Looking back to the beginning of the reign, the sixtieth anniversary of which England is commemorating to-day, we find that dentistry was carried on by a small number of men, of whom less than half a dozen possessed any medical qualification, there being no special dental qualification existing, by a limited number of skilful and respectable practitioners, mostly practising in London or the very large towns, and a great majority of unskilful, ignorant, or dishonest men, whose claim to be called dentist caused the very name of dentist to be a byword and reproach. Dental literature was scarce, the best works being those of the great surgeon, John Hunter, on "The Teeth"; Blake on "The Teeth," 1801; Thomas Bell's "Anatomy and Physiology of the Teeth," 1835; Fox's book on "The Teeth"; Jobson on "The Teeth," 1835; and Koecher on "Artificial Teeth," 1835. Books on mechanical dentistry were fairly numerous but were marred by the transparent and thinly disguised attempts of the writers to use the books as advertisements of their own method and skill.

Teeth were extracted principally by means of the key-elevators, and roughly adapted forceps were also used. Anæsthetics were unknown, though extreme cold and mesmerism had their advocates as a means of alleviating the tortures of extraction.

Artificial teeth were essentially a luxury for the rich, as they were natural teeth mounted either upon bone blocks carved to fit the mouth or upon gold plates. Porcelain teeth were invented and used, but were in disrepute, owing to defects in their manufacture and evident artificiality. The business of manufacturing dentists' appliances was then in a rudimentary condition, and dentists had, to a great extent, to make their own tools and instruments.

Gold and tin foils were used for stopping teeth, but I am afraid the total amount of tooth-saving done by the profession in those days was not large. People rarely visited the dentist till driven to him by racking toothache or the loss of front teeth, and as pulp treatment in those days was rarely effective, both dentist and patient considered they were doing right in extracting teeth to relieve pain.

Slow progress, in spite of the absence of proper means of interchanging professional ideas, was made in dental knowledge during the earlier years of this reign, and the introduction of the microscope led to a more exact knowledge of the structure of the teeth, Purkinje in Germany, Retzius in Sweden, being early in the field, Goodsir, Professor Owen, Nasmyth, Huxley, Magitot and many others devoting their talents to the subject, and John Tomes in 1848 published his "Lectures on Dental Surgery and Physiology," a publication which was a magnificent epitome of dental knowledge and his own work up to that time.

In 1844 an American dentist experimented with nitrous oxide as an anæsthetic, and a pupil of his, named Morton, successfully introduced ether as an anæsthetic. Members of our profession, therefore, may claim to have conferred upon surgery and suffering humanity the greatest boon of the century. Simpson, in 1847, introduced chloroform. With the discovery of anæsthetics operations of all kinds began to lose much of their terror, and operations became possible that would have been impossible before their use. Surgery consequently improved with giant strides, and dentistry floated to some extent upon the great wave of medical progress. The period of dental reform was at hand. The College of Dentists and the Odontological Society came into existence in 1856. Shortly afterwards the College of Surgeons of England granted a diploma in dental surgery, and dental hospitals were founded. Periodical dental literature flourished with the new life of the profession. I need not rake up old quarrels by discussing the history of the struggle for supremacy between the College of Dentists and the Odontological Society. As you know, the principle of complete independence, as represented by the College of Dentists, had to give way to the idea of dentistry being a branch of surgery, and the College of Dentists received its deathblow when the College of Surgeons resolved to institute an examination in dental surgery. Most of its members joined the Odontological Society, and the united profession settled down to its task of self-education and improvement. The Odontological Society, by the high character and status of its original members, and by its original code of professional ethics—too rigid, indeed, for the mass of the profession at the time—did much to raise the tone and status of dentists, besides increasing largely our knowledge by its scientific proceedings.

In 1878 the leaders of the profession, working well together, obtained for us, in spite of considerable opposition, the passing of the Dental Act, and followed that up in 1880 by forming the British Dental Association. Our Association, in many of its characters akin to the Old College of Dentists, being formed upon democratic and liberal lines, has grown till the large bulk of respectable dentists are in its ranks, and it is now almost necessary for the dentist who does not belong to it to make excuses for his abstention. Every registered dentist who does not advertise is eligible for membership, and I do not hesitate to assert that the man who does not join and take an active interest in its work injures not only himself but the great body politic.

Gentlemen, events have moved and are moving very fast with us, and from a despised art or trade we have risen to the standing of a more or less educated and diplomaed profession. No, man, therefore, who casts himself adrift from his fellows can expect to keep up with the constant developments of our science and practice. Personally, I feel a great debt of gratitude to this Association, and though I have been in practice but a comparatively few years, our practice has changed to an extent that would have left my original methods old-fashioned by now if I had not availed myself of the advantages which our meetings offer, and by a study of the prolific periodical literature available attempted to keep up with the march of progress.

To a busy man who thinks he has not time for original research, or who is not fitted for such work, it pays, to put it colloquially, to attend the numerous Branch Meetings of our Association and chat with others, and it pays to read our literature. On the other hand, it pays the thinker and the writer to come into contact with the man whose brains manifest themselves more at the end of his fingers. Our own Branch, during its ten years of life, has, I think, done much to justify its existence. We have held four meetings a year regularly in the different centres of our somewhat too wide area of six counties. We have enlarged our membership from 31 in 1886 to nearly 100 to-day. We have learnt to know and to respect our professional neighbours, and even to like our professional rivals, as respect tends to ripen into friendship. We have unearthed literary talent or obtained practical wrinkles from men situated in remote towns, by holding our meetings in different districts, and in that way promoted the cause of dental knowledge. We have dined and picniced together, and made speeches at our dinners calculated to enlighten the ignorant laity as to the essential difference there is between a professional man and an advertising quack.

Some people say yes, that is all very well in its way, but what have you done to protect us against the competition of the advertising quack? Well, I must admit that as a Branch we have not been excessively active in sending up cases to head-quarters for investigation and prosecution. Many cases have indeed been sent up by individuals who have been unable or unwilling to provide the necessary proof. Some people are apt to forget that many advertisers are registered dentists, and that advertising *per se* is no legal crime. Again, the difficulties in the way of proving that a man calls himself a dentist are very great—willing witnesses are scarce—and the expense and trouble of collecting evidence are not slight. The fact is that the successful prosecutions taken up by the Representative Board in test cases have so enlightened the unregistered advertiser that they have taught him how to evade the Act, and the necessary proof is now increasingly difficult to obtain. For instance, it is difficult to find out the name of the man who practises as a Company, and to convict men who practise under the ægis of a registered man. Amendments of the Company Act, and action by the General Medical Council in the matter of covering may help us, but personally I feel strongly that prosecutions under the present Act only scotch the evil, but do not kill it.

The object which we wish to attain is to prevent unregistered men *practising* dentistry. The Act has now been in force nearly nineteen years, and we can judge by the light of experience if it carries out that object. I do not think anyone can say that it does. It may harass, inconvenience and discredit the unregistered man by not allowing him to directly call himself a dentist, but it does not prevent him practising as such, and I do not think we should rest satisfied until we obtain an Act that does. In common fairness to the young man entering our profession, by means of a lengthy and expensive education and proper examination, as well as to those of us who have paid fees for registration, I think we should look forward to an Amendment of the Act. This view I advocated in a short paper at our Norwood Annual Meeting, and though it was considered premature or impracticable then, I am pleased to find that there is now a probability of an effort being made in this direction, as I have heard that there is an Amendment of the Act drafted by our Executive, and pigeon-holed at headquarters to wait a suitable opportunity for bringing forward. I would therefore advise patience and trust in the wisdom of our Executive.

It seems to me that fresh legislation of the kind referred to is but a sequel and necessary corollary of the present Act. The legislature undoubtedly intended that the public should for the future be protected against the practice of dentistry by unqualified persons, and if we can prove to them that the present Act does not efficiently do this, they will, if they can find time, be glad to strengthen the Act. I would also point out to those who are afraid of the difficulties in the way, that the dental profession is now an organised body with skilled and experienced leaders, and that the personal influence of the dentist upon his House of Commons patient is no mean factor in our favour.

It may be said as a reason for delay that the medical profession itself is not so well protected by law as the dental. That no doubt is true, but I would suggest that the dental profession has more need for protection. The choice of a doctor is considered a more important matter than the choice of a dentist. That the one means a decision which affects the graver issue of life and death instead of the minor issue of dental comfort, and the public, however fond of cheapness and quackery, do not care to trust their lives to an unqualified man, and in all towns they know perfectly well who the recognised regular practitioners are. Again, the unqualified doctor who loses a patient is unable to give a death certificate, and consequently has to face the exposure of his false pretensions at an inquest. The dental quack is less liable to detection and is exposed to less risk in the pursuit of his calling, and the public therefore require greater protection against him than his medical *confrère*. The medical profession is, however, hoping to obtain the needful amendments to their Acts from an enlightened Legislature, and possibly at the same time our own needs will receive the attention they deserve.

The Dental Act of 1878, though capable of improvement in the sense I have been referring to, has, however, led to a vast improvement in the class of men practising our speciality. The proportion of diplomaed men to others on the dental Register has risen steadily. We are indebted to Mr. A. F. A. Howe for statistics on this subject, and I would refer those who are interested in the details to his paper, published in the March number of the *British Journal of Dental Science*. Fifty years ago, at the period of dental reform, the total number of dentists practising in Great Britain was computed at 1,600, of whom about twenty held medical qualifications. Twenty years ago, when the Dental Act came into force and dentists practising at the time were registered, it was found that 5,291 persons' claims were registered, of whom 485 held dental diplomas. That large numbers of men obtained registration as dentists who had slight pretensions to the right is beyond question, but taking the figures as they stand they show roughly a proportion of one in eleven of diplomaed men. At the beginning of the present year the diplomaed men had increased their numbers to 1,583, and the others had fallen to 3,827, making a proportion of one in two. The total number of men on the Register has also fallen from 5,291 to 4,860, but owing to the fact that many men registered who practised tooth pulling in conjunction with other trades the decrease is probably more apparent than real. These figures only deal with the registered dentists. I am afraid there are also large numbers of unregistered men still practising, when one finds by recent prosecutions that in a town like Brighton six unregistered men were prosecuted in one week.

The broad fact remains that dentists to-day are becoming an educated profession, that a higher type of man is attracted to it, of better education and higher social standing, and the result is, I think, shown in the increased demand for our services, due largely to an increased efficiency in those services. People are beginning to recognise the fact that an efficient masticating apparatus is essential to their health and comfort, that their own teeth can and ought to be preserved, and not ruthlessly extracted, and that periodical visits to a good dentist from an early age is the best insurance of their children's health. They are beginning to recognise that the best dentist is the man who saves the most teeth and not the man who extracts the most. As long as people persist in neglecting their visits to the dentist till driven by racking toothache, and as long as jaws are overcrowded, so long shall we be unable to banish entirely the forceps from our instrument cabinets. But the experience of most of us has been that with the increasing perfection of our instruments and wider experience of the powers of antiseptics, with better stopping materials and the judicious use of crowning work we are increasingly able to save teeth. This extension of conservative dentistry has naturally changed the character of dental practice. Men who do their duty are not able to see as many patients in the course of the day's work as in the old days, when men in good practice would see their thirty or forty or fifty patients in a day. Nor are they able to keep as many mechanical assistants in their workrooms. It is necessary now to economise one's own time and that of one's patients by the modern system of making appointments. It saves, or should save, the patient the ordeal of being kept shivering in suspense in a crowded waiting-room. Strict punctuality on both sides should be rigidly adhered to. If we keep our patients waiting they also are unpunctual in turn, and the system is a failure. As time goes on people will recognise that time reserved for them must be paid for if they choose to break their appointment without reasonable notice.

The whole question of our methods of charging for our services is too large for me to attempt on the present occasion. There are people who complain that we value our services too highly, and are better paid than our medical *confrères* in general practice. The two questions should, I think, be kept separate. I do not think dentists as a rule are overpaid. Very few of us die rich as a result of our work. Many of us die young, or are unable, by reason of failing health, to meet the strain of our daily work, which needs all the energy of perfect health to be faithfully carried out.

The fact that dentistry in itself is to most minds an undesirable and disagreeable calling tends to make its votaries scarcer than the vast crowd of those who choose the more esteemed calling of physician. The consequence is that the best men in our profession are, like most specialists, able to command their own fees, and their clients rightly prefer to pay rather than choose a cheaper man in whom they would have less confidence. The bulk of country practitioners, however, charge strictly moderate fees, and I believe in many cases a scale of fees that cannot allow them to do their best work, and that is not graduated sufficiently to allow for the extra time that should be spent on the more difficult cases of pulp treatment. All dentists should, I think, adopt a time basis in some way for their charges, as it is not reasonable to charge the same fee for an operation that takes two hours as for one that takes twenty minutes. It is a policy that must lead to the unnecessary extraction of teeth that should be saved.

The situation may, I think, be summed up by asserting that the good dentist, owing to the demand not being equal to the supply, does more work, and, therefore, obtains a satisfactory income, whereas the doctor, owing to overcrowding, does not, in many cases, obtain sufficient work to yield him a proper return for his expensive education. The cost of education and training may in both professions be considered equal, and the expense of conducting their practice may also be taken to be alike. The possibilities of making a large income by the non-advertising dentist are, however, not equal to those of the successful doctor, as the dentist can, whatever the demand, only do a certain limited amount of work in the time at his disposal.

Gentlemen, the necessary cost of good dentistry under present conditions is a great impediment to our more general usefulness to society. The poor, except those able to avail themselves of the dental hospitals, with dental schools attached, are practically unable to avail themselves of modern conservative dentistry, and are forced to have teeth extracted that should be saved, and even to go without the so often cheap and nasty substitutes provided by the so-called cheap dentist. State-aided dentistry is a dream of the future. Charitable institutions, where dentists give their services for nothing will never adequately meet the needs of the poor, nor are they fair to the profession. The dentist, unlike the doctor, who starts practice now, has actually performed all the operations of his speciality, and been examined as to his practical fitness to perform them before he is granted his diploma, and the number of cases of interest he would be likely to see in dental hospital practice are so few that the experience gained would not compensate him for the loss of time which is to him more precious than to the doctor. The total number of dentists also would be insufficient to cope with the demand, even if all were to devote one day a week to the charity. The only hope for the poor seems to me to lie in time-saving improvements of our methods. When the ideal stopping is invented that will be as permanent as gold, and as easily inserted as an oxyphosphate, and as natural looking as porcelain teeth ; when the antiseptic is discovered that will preserve the pulp *in situ* in a permanently healthy condition ; then, indeed, good dentistry may become cheaper and available for the masses.

I dare not venture to affirm that dentistry has almost reached perfection in practical operating skill, according to our present knowledge, as I have noticed in reading through our old literature how each author thought that things in his time had also nearly reached perfection, but I do believe that progress for the future will come from the scientific rather than from the practical man. The dental science of my student days is already out of date. We need help from the sciences of electricity, bacteriology, chemistry, physiology, and pathology, and the scientifically trained dentist of to-day is, I think, the man of our future.

Gentlemen, I feel that I have long ago exhausted your patience, and it only remains for me to thank you very much for your kindness in listening to a production unworthy of the traditions of this chair, and for the shortcomings of which I must again ask your indulgence.

Mr. J. WOOD said it was his privilege to propose a hearty vote of thanks to their President for the inaugural address. He was sure they must be congratulated that he had taken the chair of this Branch of the Association, and they were quite satisfied that he would prove a worthy successor to Mr. Redman, and that the affairs of the Society would be well looked after through the year. He (Mr. Wood) should like to congratulate the President on his very happy allusion to the past of dental education, and also on having on his left hand the pioneer of dental reform and education. It was his privilege to be associated with their friend Alderman Rymer forty years ago, as one of the early students of the old Dental College, and he was still very proud to be in the possession of one of the first diplomas issued by that College. He heartily congratulated the President on his election, and on his very exhaustive address.

Mr. REINHARDT said he had very great pleasure in seconding the motion, and he should like to say that he did not think, judging from the address just delivered, that their present President was justified in saying he was not qualified to fill the post. It was one of the most interesting addresses he had listened to, and he was particularly glad to hear his reference to Alderman Rymer.

The PRESIDENT said he was extremely obliged to them for listening to him so patiently, and for their kindness in passing this vote of thanks.

ELECTION OF OFFICERS.

The following officers were re-elected *en bloc:—President-elect*, J. C. Foran ; *Vice-Presidents*, Ald. S. L. Rymer, J. H. Redman ; *Hon. Treasurer*, J. H. Redman ; *Hon. Secretary*, F. V. Richardson ; *Member for Representative Board*, Mr. J. H. Redman.

The PRESIDENT said there were at present five nominations for four seats at the Council. Under the new rules no fresh nominations could be made because sufficient notice could not be given, therefore four gentlemen must be selected from the list.

Dr. WALKER asked leave to withdraw his name, and then the remaining four candidates would stand. He had accepted an office in London which would take up every moment of his time, and therefore to appoint him on this Council would be almost useless.

The PRESIDENT thought from what they knew of Dr. Walker, if he allowed himself to be put on a committee, he always attended and did his duty, therefore they hoped he would allow his name to stand.

Mr. REDMAN proposed Messrs. Flint and Wood as scrutineers, and the President announced the result as follows:—W. Barton (Eastbourne); H. J. Kluht (London); J. H. Reinhardt (London); Dr. Walker (London).

CASUAL COMMUNICATIONS.

Mr. DOLAMORE brought forward a case of "Anchylosis of the Temporo-Mandibular Bone." He said this was really a very interesting case from several points of view—firstly, from the humanitarian point of view; secondly, from the point of view of a surgeon; and thirdly, from the point of view of dentists. It was a lad somewhere about 20. He came to the London Hospital accompanied by his brother, and he was unable to open his mouth. He was also deaf and he was dumb; he could not read, nor could he write. On examination he found a scar over the left temporo-mandibular joint, rather far back near the mastoid process; of course that scar showed that at one time there had, in all probability, been some abscess which had burst and left a scar. He (Mr. Dolamore) inquired of the brother what illness he had had, and was told he had diphtheria, and he gathered, from one of the dressers in the hospital, he had scarlet fever. But unfortunately he was deaf and dumb, and could not write, and as nobody came again with him it was impossible to get nearer details. He had never heard of suppuration in the temporo-mandibular bone as a consequence of diphtheria, but there was nothing unreasonable in supposing it might occur. But it was obvious, if this were the cause, the inflammation had passed along the eustachian tubes from the mouth and consequently had set up suppuration in the temporo-maxillary joint and destruction of the middle ear, and as a consequence anchylosis, fibrous or osseous. He (Mr. Dolamore) could not quite account for the fact that the lad was deaf on the other side. He must take it that he had an abscess there. However, the fact that he was dumb showed, he thought, this must have taken place during the very early years of life, although of course it was possible he might have been able to speak slightly as quite a child and then have forgotten how. One interesting thing was, he thought, that the lower jaw was quite undeveloped—that was the maxillary portion He thought they might divide the lower jaw into two portions—first, that which depended for its presence merely on the teeth; and secondly, the portion which was really a muscular process. Now, in this case the boy had lost some of the teeth, if he had not, he supposed he would almost have died because he had to be fed through the spaces provided by the loss of these teeth, but otherwise, with these few exceptions, his dentition was fairly good. Therefore the alveolar processes were well developed; but the lower, or muscular portion, was ill-developed. There was neither an angular nor a mental process, and very possibly, though this one could not verify, the coronoid process was small. The size of these processes depends on the action of muscles. In this case the muscles were atrophied, for they had no use. Mr. Dolamore handed round a plaster cast of the face of this boy.

Mr. E. LLOYD-WILLIAMS apologised for bringing forward the subject of "*Some Practical Points in Vulcanite Work*" in a somewhat conversational manner, not having had time to commit his remarks to paper—a method often productive of discursiveness.

At the outset he desired to call attention to the following statement made in the recent edition of a well-known book on "Mechanical Dentistry":—

"While there are undoubtedly many important uses to which vulcanised india-rubber may be applied in the practical departments of dentistry, and for which it would be difficult to find an adequate substitute, yet there are accumulating evidences leading to the conclusion that its abandonment, as a base for artificial dentures, by intelligent and conscientious practitioners, except in rare cases, or where for pecuniary reasons a more expensive base is not admissible, is an event of the not distant future.

"This anticipated result, in respect of a material which has been almost universally employed as a base for the past twenty years, is assured by the confirmed and steadily increasing distrust of its suitableness for the purpose indicated, and the growing tendency in the profession to return to higher and less objectionable forms of substitution in respect to material and construction."

Now if this meant anything, it meant that vulcanite as a basis for artificial dentures had seen its day, at any rate if they were "intelligent" and "conscientious," and its substitute, whatever it was, was to be "higher," whatever that might mean—presumably higher in price.

From the reader's experience he gathered that vulcanite still did good service, and was not likely to be superseded for some time to come in the special cases where it was so useful. Its advantages were touched upon in the following order:—

(1) The only material which gives an absolutely reliable *fit*—in

other words, the only base that can be said to fit the best obtainable plaster model of the mouth.

(2) Its lightness for upper edentulous cases.

(3) It is easily manipulated by the average mechanic.

(4) It lends itself to the natural arrangement of teeth as well as the contouring of the alveolar arch.

(5) Its cost is small, and on this account it is of great service to the *poor.*

The practical points dealt with were :—

(1) The treatment of the material : (*a*) in order to obtain strength: (*b*) in order to avoid porosity.

Under this heading the complex nature of india-rubber and sulphur were considered ; and Herr Boeck's theory of the conversion of caoutchouc into a resin-resembling substance by the process of dry distillation was discussed. The question of the registration of heat in the vulcaniser was supposed to account for the faulty quality of the material, and the variation between a pressure gauge and thermometer as usually employed was dealt with at some length. Porosity was maintained to be due to the ineffectual escape of hydrogen sulphide, and it was suggested that in the future it might be possible to devise a more porous investment than plaster to allow of the escape of the gas. Some specimens were shown exhibiting various stages of porosity in black rubber, and a thick block passed round which had been invested in French chalk.

(2) Change of position in the teeth after flasking : (*a*) raising of the bite : (*b*) shifting of individual teeth.

The question of the expansion of plaster in the flask was touched upon, and the use of the three-part flask advocated as minimising the evils of expansion, and giving more accurate results. The surfacing of the teeth with oxychloride of zinc was recommended as a cure for shifting.

(3) Blistering of surface after re-vulcanisation. This was proved by a simple experiment to be due to bubbles of air remaining between the investing plaster and the surface of the old vulcanite, and the cure was pointed out to be more careful investment.

The PRESIDENT expressed a hope that at some future time Mr. Willlams would give them a further address on the same subject, and he had now to tender him a hearty vote of thanks for his kindness in assisting them. One other matter the members would observe : they were meeting in their magnificent new Town Hall, and he thought they would agree with him it was extremely kind of the Corporation of Croydon to have so generously placed the rooms at their disposal. He therefore also proposed that the Secretary should write expressing their very hearty thanks to the Mayor and Corporation for their kindness.

The proposition having been adopted, Alderman RYMER said he was sure they would agree with him that a cordial vote of thanks was due from them to their President for the manner in which he had presided over them that afternoon, and he would ask them to join with him, not only in congratulating him on the able address they had heard, but in wishing him a very happy year of office.

Mr. REDMAN seconded, and the resolution having been carried amid applause, the President briefly replied, remarking that anything he could do for the Association he should always be only too pleased to do.

At the invitation of the President, the members then drove through Addiscombe and Shirley to Addington Park, the residence of the Archbishop of Canterbury, the beautiful scenery being greatly admired and enjoyed by all.

The dinner was held at the "Greyhound" Hotel, Mr. Morgan Hughes presiding. He was supported by the Mayor of Croydon (M. L. Moss, Esq.), the Deputy Mayor (Sir Frederick Edridge), Alderman Rymer, J.P., Dr. C. W. Philpot, Dr. Moody, Dr. Parsons-Smith, Mr. C. Wray, Mr. G. Frisch, Mr. B. Williams, Dr. Allan, Dr. Nicholls, Mr. J. Smith-Turner, and others.

The PRESIDENT having given "The Queen," Dr. PARSONS-SMITH proposed the "British Dental Association and the Southern Counties Branch," to which Mr. J. SMITH-TURNER replied.

Dr. WALKER gave "The Medical Profession," to which Dr. PHILPOT responded.

Mr. E. LLOYD-WILLIAMS gave "The Benevolent Fund," Mr. J. REDMAN replying.

Alderman RYMER gave the toast of "The Visitors," and coupled with it the names of the Mayor and Sir Frederick Edridge.

Mr. WOOD proposed the toast of "Hon. Secretary," Mr. RICHARDSON briefly responding; and the toast of "The Chairman," proposed by Mr. DOLAMORE, concluded the proceedings.

Western Counties Branch.

The Annual Meeting of the Branch will be held at the Albert Memorial Museum, Exeter, on Friday, July 23, 1897.

PROGRAMME OF THE PROCEEDINGS.

9.30 a.m.—Council Meeting in the Museum Library.

11 a.m.—General Meeting of members in the Art Gallery of the Museum. Report of Council for the Year. Honorary Treasurer's Report. Election of Officers and Council. Motion *re* the Dentists Act, by Mr. J. C. Oliver. General Business. Valedictory Address, by Mr. T. Taylor Genge. Inaugural Address, by Mr. Henry B. Mason.

Papers.—"Study of the Sympathetic in relation to the fifth pair of

Nerves, with practical deductions," by W. A. Hunt, L.R.C.P., M.R.C.S. "A few Items of Interest," by G. C. McAdam, L.D.S. Eng. "A Rapid Cure of an Antral Abscess," by S. H. Wallis, L.D.S.I. "A Casual Communication," by W. E. Harding, L.D.S.Eng. "Case of a Suppurating Dentigerous Cyst," by T. A. Goard, L.R.C.P., M.R.C.S., L.D.S.

2 p.m.—Luncheon at the Rougement Hotel, of members and friends, by invitation of the President-elect.

3.30 p.m.—Demonstrations at the Dental Hospital. "Improved Gas Furnace and methods for porcelain and continuous Gum-Work," by J. H. Gartrell. "Automatic Water-Heater," by J. J. H. Sanders, L.D.S.I. "Platinum and Porcelain Crowns, also illustrating the many uses of a Modern Crown and Bridge Furnace," by W. H. Goodman, L.D.S.Eng.

7 p.m.—Annual Dinner at the Rougemont Hotel. Tickets 7s. 6d., exclusive of wine.

July 24.

There will be a Coach Excursion to Chagford, calling at Fingle Bridge and Drewsteignton. Luncheon (2s. 3d.) will be provided at the Moor Park Hotel, Chagford.

The return journey will be made *via* Bovey and Mortonhampstead. Members will thus be able to see some of the loveliest spots of Devonshire. The Coach will start from the Rougement Hotel at 10 a.m., and return at 6.30 p.m.

It is particularly requested that members who wish to attend the meeting will inform the hon. secretary not later than July 15, in order to facilitate the arrangements.

Subscriptions, due August 1, should be paid to the hon. treasurer, J. T. Browne-Mason, 6, Southernhay, Exeter.

Gentlemen desirous of becoming members should apply to the Hon. Sec. of the Branch, T. Arthur Goard, 6, Southernhay, Exeter.

Headquarters will be at The Rougemont Hotel. Other hotels, The New London Hotel, The Clarence, and Osborne Family Hotel (Temperance).

Metropolitan Branch.

It being obviously unadvisable to hold the summer meeting this year at the end of June, as is customary, it was intended to call a meeting for July. But owing to various circumstances members seem unable to attend and give demonstrations this month, and it has, therefore, been thought better to hold a meeting, with practical demonstrations, early in October.

W. H. Dolamore, *Hon. Sec.*

The Benevolent Fund.

THE following contributions have been received since the list published in the February issue :—

New Subscriptions.

Cartwright, A., 32, Old Burlington Street, W. (for 1895, 1896 and 1897)	£3	3	0
Wilson, D. Baillie, 29, Minto Street, Edinburgh (per J. S. Amoore)	0	10	6
Lindsay, Robert, 25, Eyre Place, Edinburgh (per J. S. Amoore)	0	5	0
Foran, J. C., Elmslea, 7, Seaside Road, Eastbourne ; *resumed* Subscription	1	1	0

Donations.

Lankester, Frank J., 13, Belvoir Street, Leicester	£1	1	0
Southern Counties Branch, British Dental Association (per Frank V. Richardson, collection at Meeting, April 10)...	2	2	6
Midland Branch, British Dental Association (per T. E. King, collection at Meeting, May 14)	5	14	6
Irish Branch, British Dental Association (per Geo. M. P. Murray, collection at Meeting, May 21)...	2	14	6
Hughes, Morgan, Eastbridge, Addiscombe Road, Croydon	1	1	0
Harrison, Walter, 6, Brunswick Place, Hove, Brighton ...	0	10	6
Buckland, S. C., Fairview, Wimbledon Park...	2	2	0
Southern Counties Branch, British Dental Association (per Frank V. Richardson, collection at Meeting, June 19)	5	6	6
Anonymous (per S. and B. Longhurst, 28, Old Burlington Street, W.)	1	1	0
Sutcliffe, W. A. O., 59, Manningham Lane, Bradford, Yorks (per I. Renshaw)	1	1	0
Midland Branch of British Dental Association, (per I. Renshaw, collection at Meeting, February 20)	7	6	0

A Dental Act for Natal.

A correspondent in Natal says :—" Our Dental Act has passed, and the first prosecution under it is about to take place ; Government prosecutes. It is not necessary under this Act for a man to call himself a dentist, &c., the performance of a dental operation by an unregistered man is made penal ; six months' imprisonment or £100 fine. We think our Act an advance upon the British. Americans are excluded for the future, but L.D.S. men are accepted. There are now so many dentists in this colony that as they cannot all make a living some of them are leaving."

Original Communication.

On Osseous Anchylosis of the Temporo-Mandibular Articulation.*

By D. M. GREIG, C.M., F.R.C.S.Ed.

SURGEON TO THE DUNDEE ROYAL INFIRMARY.

I am sure I need not offer you any apology for not having been able to choose a subject more nearly related to your own speciality than that of anchylosis of the temporo-mandibular articulation. It must be far more obvious to you than it is to me how very greatly such a condition interferes with dentition and the treatment of purely dental affections, and I trust that you will bear with me if I treat the subject from a surgeon's rather than a dentist's point of view. Osseous anchylosis of the temporo-mandibular articulation is brought about by an arthritis, which may be septic from the middle ear through the Glasserian fissure, from the parotid gland or other soft parts, traumatic from fracture, tubercular, or from osteo-arthritis. Whatever be the cause the result is an inflammation of the joint with intra-arthrodial, and extra-arthrodial formation of osseous tissue, and a more or less complete obliteration of the joint. In the skull which I now show you, and which, with the dissection of the soft parts, I described and figured in the *Edinburgh Medical Journal*, October, 1894, it is seen how complete this obliteration may be. The joint is entirely gone, and the thickened neck forms with the condyle a mass of bone continuous with the temporal. The skull shows also how the teeth come to project forwards, a characteristic which all old-standing cases of this disease present, and which is probably due to attempts, carried on for years, to force food between the approximated dental arches into the mouth. A third prominent feature of this condition, when advanced, is noticeable in this skull, viz., the shortening of the ascending ramus and the obliteration of the angle of the mandible. The development of this part of the bone depends on the development of the masseter muscle externally, and the internal pterygoid internally, and *pari passu* with their atrophy the angle disappears. I believe that as a consequence of the atrophy of the mandible, or its arrest of growth, the mandibular invariably lies behind the maxillary dental arch. This is well shown in a case which I published in the *Lancet* of 1891, and which was reprinted in your own journal in January, 1892.

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* A paper read at the Annual Meeting of the Scottish Branch held at Dundee, June 4, 1897.

The mere fact that the anchylosis is osseous forbids that violence of forcing in wedges, screw gags, and such, which were the only methods of the surgeons of former days; and of all the more modern methods the excision of the condyle and neck of the jaw is, in my opinion, by far the most satisfactory, and of that only do I intend to speak.

The operation is not an easy one, for the region bristles with important anatomical structures. Behind lies the superficial temporal artery, and superficially there is the parotid gland with its duct, the transverse facial artery and the facial nerve, while deeper than the condyle lies the internal maxillary artery. All these may by careful planning of the incision be avoided, except the facial nerve, and the question is how to reach the joint with the least possible injury to the nerve. Even in the most recent works on anatomy the facial nerve seems placed too low down. When it reaches the parotid margin, all the branches are directed more or less upwards and anastomose very freely before finally starting for their ultimate destinations, and the branches to the angle of the mouth, upper and lower lips do not pass transversely from the stylo-mastoid foramen to these regions. They pass upwards to such an extent that even a small vertical incision over the joint involves them, and we have paralysis, not only of the orbicularis palpebræ of that side, but of the lower muscles as well. It is true that in some cases the paralysis disappears on account of the freeness of the anastomosis, and probably in all it diminishes for some time after the operation, but it would be an advantage if the incision could be so planned that paralysis would be altogether avoided. A transverse incision has its supposed advantages based on a misconception of the anatomical arrangement about the joint, for it must be made much larger in order to sufficiently loosen the attachment of the masseteric fascia to the zygoma than is necessary for the mere removal of the joint, and therefore the division of the facial branches is unnecessarily extensive.

In the case to which I have already alluded, my vertical incision was followed by some permanent paralysis, and in my second case, where the deformity had existed for fifteen years, the paralysis after operation was even more marked. In a bilateral operation, again, the deformity is of course bilateral, and therefore not very noticeable, as in a case on which I operated by double vertical incision, the anchylosis being of twenty-six years' duration. In this case the ultimate result was perfectly good, and my colleague, Dr. W. Graham Campbell, had no difficulty after the operation in extracting some of the teeth and fitting in artificial ones.

In my fourth case, and the last to which I will call your attention, the condition was an exceedingly severe one. It was that of a girl of ten years who was sent to me by Dr. Hood of Blairgowrie. She had had sloughing of the soft parts in the mouth after an attack of typhoid fever. The joint was unaffected, but the anchylosis was due to enormous hypertrophy of the ascending ramus, and anchylosis of the coronoid process to the maxilla. The incision I adopted here was a curved one with the concavity downwards extending from the level of the superior external angle of the orbit to behind the joint. The flap so made was cast downwards along with all the branches of the facial nerve as high as, and including, those going to the orbicularis palpabræ. The neck and condyle were excised, and a wedge of bone removed from the enlarged ramus; the tip of the coronoid process was left attached to the maxilla. No paralysis remained, and as regards movement, the result was excellent.

In all unilateral cases there is an inevitable deformity, consisting in a slight sloping upwards of the mandibular dental arch towards the side operated on, and a shortening of the distance between the zygoma and the lower margin of the jaw, giving rise to a slight fulness of the cheek. Finally, the points I desire to bring out specially in these cases are:

(1) That the condition is curable no matter how long it has existed.

(2) That the muscles, though much atrophied and fatty, soon regain their tone and bulk.

(3) That any paralysis from division of the facial nerve is not a subsequent necessity."

[*The cases referred to were illustrated by photographs taken before and after operation.*]

Legal Intelligence.

COURT OF APPEAL.

Before Lord Esher, Master of the Rolls, and Lords Justices Smith and Chitty.

June 1.

Regina *v.* The General Council of Medical Education.

Medical Practitioner—Dentist—Registration—Dentists Act, 1878 (41 & 42 *Vict. c.* 33), *ss.* 6 (*c*), 7, 37.

Appeal from the judgment of the Queen's Bench Division (Justices Hawkins and Wright), discharging a rule *nisi* for a *mandamus* to the General Council of Medical Education and Registration of the United Kingdom to place the name of the prosecutor, Isidore Spero, on the Dentists' Register.

The prosecutor was, at the passing of the Dentists Act, 1878, viz., July 22, 1878, articled as a pupil to a dental practitioner entitled to be registered under the Act, to whom he had paid a premium of £30, in consideration of receiving a complete dental education. The articles were for a period of three and a half years, commencing April 13, 1875, and expiring October 13, 1878.

The prosecutor did not produce or transmit to the registrar before August 1, 1879, the declaration required by section 7 of the Dentists Act, 1878, and did not apply to be registered until many years afterwards.

By section 6 (*c*) of the Dentists Act, 1878, any person at the passing of the Act *bonâ fide* engaged in the practice of dentistry is entitled to be registered under the Act.

By section 7 a person shall not be registered as having been at the passing of the Act engaged in the practice of dentistry unless he produces or transmits to the registrar before August 1, 1879, a declaration in the form in the Schedule to the Act, "or to the like effect."

By section 37 an articled pupil who has paid a premium to a dental practitioner entitled to be registered under the Act in consideration of receiving a complete dental education is, if his articles expire before January 1, 1880, entitled to be registered under the Act "as though he had been in *bona fide* practice before the passing" of the Act.

The prosecutor contended that by section 37 of the Act he was entitled as of right to be registered under the Act.

The Queen's Bench Division held that upon the true construction of the Act the prosecutor was not entitled to be registered, inasmuch as he had not produced or transmitted to the registrar before August 1, 1879, the declaration required by section 7, and quashed a rule *nisi* to the General Council obtained by the prosecutor commanding them to place his name upon the Dentists' Register.

The prosecutor appealed.

Mr. T. WILLES CHITTY (Mr. J. C. BIGHAM, Q.C., with him) for the prosecutor.

Mr. MUIR MACKENZIE for the General Council.

Their Lordships affirmed the judgment of the Queen's Bench Division, and for the same reasons. Appeal dismissed.

Solicitors: Bertram Jacobs for the prosecutor; Farrer & Co. for the General Council.

(Reported by G. Humphreys, Esq., Barrister-at-Law.)—*The Law Journal.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE last meeting of the Session of this Society was held on June 14, the PRESIDENT (Mr. R. H. Woodhouse) occupying the chair.

The following gentlemen, recommended by the Council as Officers and Councillors for the year 1897-8, were elected:—

PRESIDENT.—Mr. W. E. Harding.

VICE-PRESIDENTS.—Messrs. Boyd-Wallis, J. Ackery and C. West (*Resident*), and Messrs. J. F. Cole, M. Macgregor and W. A. Hunt (*non-Resident*).

TREASURER.—Mr. W. H. Woodruff.

LIBRARIAN.—Mr. W. A. Maggs.

CURATOR.—Mr. Storer Bennett.

EDITOR OF TRANSACTIONS.—Mr. J. F. Colyer.

HONORARY SECRETARIES.—Mr. J. H. Mummery (Foreign); Mr. H. Baldwin (Council) and Mr. J. O. Butcher (Society).

COUNCILLORS.—Messrs. Smith, Curnock, Gould, Albert, Kluht, Williams, Clayton Woodhouse, Badcock and Bateman (*Resident*), and Messrs. Cunningham, Mason, Andrew, Washbourne, Amoore, Ackland, Matthews, Hughes and Fothergill (*non-Resident*).

The LIBRARIAN reported that during the past year forty-three members and fifteen visitors had made use of the library, as compared with thirty-two members and forty-two visitors in the previous year. The number of books borrowed—a privilege now solely enjoyed by members—was fifty-seven, as compared with forty-four in the previous year.

The TREASURER presented his annual statement, which showed that the annual subscriptions amounted to £452 11s. ; arrears paid up £42 ; entrance fees £30 9s. ; sales of Transactions £6 4s. 3d. ; bringing the receipts of the year up to £531 4s. 3d. On the other side : rent £150 ; fire assurance £3 7s. 3d. ; expenses of meetings, microscopes, &c. £97 17s. 1d. ; library expenses £20 9s. ; museum expenses £38 15s. 6d. ; Transactions £136 9s. 2d., and general expenses £57 6s. 10d. made a total of £504 4s. 10d. The gross receipts for the year amounted to £531 4s. 3d., and the gross expenditure £504 4s. 10d., leaving a balance of £26 19s. 5d. The investment account now stands at £4,378 16s. 3d.

The CURATOR said he had very little to say with regard to the Museum ; all the specimens had been shown and described at the time of their presentation. He appealed to the members to take a little more interest in presenting the specimens to the Museum. The Society was very much indebted to Mr. Morton Smale, who, beyond all others during the last two or three years, had presented a very large number of valuable specimens.

The Curator also exhibited a lower canine, very much decayed with two well-marked roots, which had been presented by Mr. James Clarke. He also showed a portion of an elephant's tusk, lent by Mr. David Hepburn, which had been evidently injured by a bullet.

Mr. SIDNEY SPOKES exhibited a home-made denture, taken from the mouth of a man 78 years of age. The denture, apparently, had been manufactured out of a piece of sheet-iron, upon which three bone blocks had been riveted with iron rivets. The man had stated that he had made the denture himself when he was an engineer in Portsmouth dockyard, and had worn it for over thirty-two years.

Dr. GREVERS read an interesting paper on the relation of the upper to the lower teeth.

Messrs. STORER BENNETT, TOMES, WALLACE, and MAGGS took part in the discussion, and Dr. GREVERS briefly replied.

The PRESIDENT, in conformity with the custom of the Society at the end of the Session, concluded his term of office as President by briefly epitomising the chief work of the past Session. He briefly reviewed the various papers which had been read, and the discussions which had ensued upon them. In speaking of the losses the Society had incurred through death and resignation, he specially mentioned the deaths of Dr. Magitot of Paris, and Sir Benjamin Ward Richardson, the latter, he said, being one of the oldest honorary members of the

Society. He was pleased to say that the number of new members made good, numerically, the losses the Society had sustained. With regard to the finances of the Society, it would be seen that there was a substantial reserve fund, which was fortunate, as the time would be immediately upon them when, to advance the interests of the Society, that fund would have to be trenched upon. The Museum and Library, under their excellent custodians, made steady progress, and represented collections of specimens and books invaluable for study and reference. The important question to which he alluded in his opening address as to the future domicile of the Society had not been neglected by the Council, and although a final solution had not yet been reached, matters were so far matured that his successor and the Council would find the difficulties that had surrounded the question much simplified. Referring to his trip abroad, the President said that the enforced rest had not only benefited his health, but had afforded him an opportunity of visiting Cape Colony, Natal, the Transvaal and the Orange Free States, and of getting some insight into what the profession was doing in those parts. Whilst there was more to deplore there in general status than there was at home, there was a slow movement towards a better condition of things. The importance of a special training and value of proper credentials was being recognised by the powers in both Cape Colony and Natal, but the Colonies still lacked the *esprit de corps* which in England bound them together in a common brotherhood. Before vacating the chair he tendered to the members and the Council his best thanks for their regular attendance at the meetings, and to the Secretaries for their close attention to the inner working of the Society. He congratulated the Society on their choice of his successor, Mr. W. E. Harding, who, he said, was one of his oldest friends, and one whom to know was to respect and admire. He wished the Society, under Mr. Harding's leadership, every success.

Mr. HEPBURN, in proposing a vote of thanks to the President, said he was very glad that that duty had fallen upon him, because the name of Woodhouse was an honoured name in the profession. At the very outset of dental reform in England the name of Woodhouse was associated with it, and as far as he could see the name was not at all likely to die out for many generations to come. Mr. Woodhouse, as President, had conscientiously fulfulled every duty that fell to his lot, and he had presided over the meetings of the Society and of the Council, with all the tact, ability, and geniality which was expected of him when he was elected to the post.

Mr. BADCOCK seconded the motion, which was carried with acclamation.

The PRESIDENT shortly responded.

On the motion of Mr. W. HERN, the thanks of the members were accorded to the officers of the Society; and Mr. CLAYTON WOODHOUSE, on behalf of his colleagues and himself having replied, the session terminated.

Hospital Reports and Cases in Practice.

Death from Chloroform given for a Dental Operation.

For the following notes we are indebted to Mr. D. Cowin, House Surgeon to the South Devon and East Cornwall Hospital:—

The patient was a man aged 28, well developed. There were two teeth to be extracted.

Chloroform was administered, the patient passing under its influence without any untoward symptom beyond the fact that there was perhaps a little more struggling than usual. As soon as the patient's breathing became regular and stertorous, the lint was removed from over his mouth. This stage was reached in five or six minutes. The face being of good colour, the dental surgeon then proceeded with the operation, and the teeth were quickly removed. As the second tooth was being extracted it was noticed that the patient's face was pallid, but as he was no longer inhaling chloroform it was not considered an alarming symptom. The pallor, however, became intensified, the breathing shallow. Without losing time artificial respiration was commenced, the tongue being brought well forward and various stimulants applied without success.

The pulse at the commencement of the operation was very fair. The patient, who had come down from the Convalescent Home to have his teeth seen to, felt so well in himself that he had arranged to play in a cricket match in the afternoon.

Exactly a fortnight before, some tubercular glands had been removed from the left side of the neck, the anæsthetic used on that occasion being ether (the period of anæsthesia lasting some thirty minutes).

The *post-mortem* examination showed that the heart was flabby. Lungs were not congested, but left lung was adherent to chest wall.

In the abdomen a state of things was found, which, during life, had never been suspected. In the liver were several caseous masses about one inch in diameter; the whole peritoneum, parietal, and visceral, being studded thickly with grey miliary tubercle.

Abstracts and Translations.

Anæsthetisation of Children.

A METHOD of anæsthetising children, devised by Mr. G. Rowell, Senior Anæsthetist to Guy's Hospital, was described by him to the Harveian Society at a recent meeting. Seeing that chloroform often causes dangerous symptoms in children, though they respond well to treatment, and death if it occurs is almost invariably caused by an overdose, he was led to question whether there was a better anæsthetic for routine use in children. Passing by gas and air, and gas and oxygen, both obviously unsuitable for use by practitioners generally, Mr. Rowell was led to employ ether, of which Mr. Braine had already indicated the use for the anæsthetisation of children. But ether had either to be given very slowly, so that it takes eight or ten minutes to render the child ready for operation, or, if a larger quantity was used, straining, coughing, struggling, or some other unpleasant reflex was excited. Happily, Mr. Rowell has found it possible to obviate the production of these troublesome symptoms. But, first, the depth of anæsthesia attained at any moment in children, especially under chloroform, is occasionally difficult to decide ; under ether, however, there is one test of good surgical anæsthesia in the young which is certain and invariable—that is, the absence of swallowing, coughing, straining, held respiration, or any alteration in the rhythm of respiration in response to a strong ether vapour suddenly applied. (Upon the recognition of this fact, Mr. Rowell's method of anæsthetisation is based.) Consequently, when a child is once so deeply narcotised as to have lost these reflexes, it is an easy matter to keep it at this uniform depth by taking away the vapour for a few breaths and then re-applying it until this stage is again reached. To attain this condition is, in Mr. Rowell's opinion, best done by giving A.C.E. gradually upon a towel or Skinner's inhaler for about a minute and a-half, beginning with a drop at a time. When the child at the end of this period can freely breathe the vapour proceeding from a completely wetted single layer of flannel on the inhaler, a stronger vapour of A.C.E. is given from a sponge in a Rendle's mask, and when this is freely respired a drachm or two of pure ether is added. When the reflexes excited by the ether vapour are almost or quite gone the first sponge is removed, and a fresh sponge containing 2 or 3 drachms of ether only is rapidly substituted for it, and from this time the administration is continued with strong ether vapour, the mask being applied only when shown to be necessary by the presence of the reflexes referred to. The following advantages are claimed for this method : (1) the time required to produce good anæsthesia is rarely more than four minutes ; (2) the guides to the anæsthetist are clear ; (3) flaccidity and freedom from movement during the operation are complete ; (4) the after-effects bear comparison with those after any other method ; (5) the method is safe. Even should an inexperienced administrator encounter stoppage of respiration from an overdose, the only accident to be reckoned with, all that is needed is a little compression of the chest, the circulation not being prejudicially affected as in the case of such an event under chloroform. The method is recommended especially for children under 5 or 6, and for any child with obstruction in the upper air channels. By children above 5 or 6 the combination of gas and ether is so well borne that nothing need replace it. But all practitioners do not give gas and ether, and those who do not are recommended to employ the above simple method of etherisation for children of all ages and conditions.—*British Medical Journal.*

Reviews and Notices of Books.

A SYSTEM OF DENTAL SURGERY. By the late Sir John Tomes, F.R.S. Fourth Edition. Revised and Enlarged by Charles S. Tomes, M.A., F.R.S., Lecturer on Dental Anatomy and Physiology to the Dental Hospital of London. Pp. 717, and 289 illustrations. London : J. & A. Churchill, 1897.

Amongst the enormous number of medical works which announce themselves in the medical press there are not to be found too many of first-class merit relating to dental matters. It is, therefore, with pleasure and with no little interest we notice the publication of a new edition of the " System of Dental Surgery." Thirty and more years ago this work achieved for itself the position of leading authority on dental surgery in England. Only those who are at all familiar with the treatises available to the English dentist previous to 1859 can appreciate the progess which this work made. Though it is true that John Hunter, Fox, Bell, and others, had striven, and partly succeeded, in making dental surgery a science, yet as was remarked of Hunter, he never practised as a dentist, and the others were not discoverers. It was probably the combination of these two qualities, of clinical experience and research, which gave to Tomes' work its value and popularity. In saying this we by no means ignore the many valuable contributions, both practical and scientific, by others, which had already appeared at the learned Societies, but they were mostly on topics disconnected and fragmentary.

In the years that have elapsed since the System first appeared a perfect revolution has taken place, both in opinion and practice, eliminated by discussion, demonstration and experiment, extending the field of inquiry in every direction, volumes being devoted to each special department. Amidst this environment the " System of Dental Surgery " has grown by stages to its present form. From the beginning it announced itself as a " strictly practical work," and we can appreciate a remark in the present preface that " to keep intact the initial character of the book is no easy task." For much that is practical in the present day is so only through a clearer insight into theory and the laws of nature, whether considered in reference to disease or to its remedies. Merely to mention Pasteur's theories and their effect upon practice were enough to assure of this. Nevertheless, we believe it but foreshadows the opinion of our readers to say that the practical character of " Tomes' Dental Surgery " is fully and excellently maintained in the present volume. As we are conducted through the various vicissitudes affecting the teeth, from their first appearance to their final removal, whether their faults be traced to effects of race or growth, diet or disease, or their remedies take us into the region of mechanics, or physics, or physiology, that which we gather is strictly in its bearing to practice, and Milton's lines, " that which before us lies in daily life is the prime wisdom," might fitly head and end the book.

It is not our intention to review the work systematically; wherever the topic rests on opinion or experience, authorities are quoted and the balance is struck by the author himself, nor could criticism of ours add aught of value to the views of such men as Mr. Victor Horsley on neuralgia, or Dr. Job Collins on secondary affections of the eye, to Bland Sutton or Broca on odontomes, to Langdon Down or Norman Kingsley on irregularities of the teeth, or to Dr. Miller on caries; suffice it to say new chapters are opened and old ones curtailed, some enlarged and others rewritten. New materials are dealt with, from Solila gold to porcelain inlays; new methods, from saw-cutting for regulation to immediate root filling; from new drugs, like cocaine, to the virtues of cotton wool dressings.

It is natural the subject of dental caries should occupy a considerable section of the book, ranging as it does from an examination of "the nature of the data" which express the sum of our knowledge of the phenomena, and in the handling of which the author, perhaps, appears at his best, through the conditions which favour or otherwise its presence or removal, down to methods of filling and to the properties of fillings themselves.

The immensely important subject of bacteriology, especially as manifested in the mouth, is a valuable addition to the book, and has a chapter to itself; it prepares and makes clear the way for its closer consideration in the several departments of caries, alveolar abscess and pyorrhœa alveolaris, and for a correct estimation of the merits of the various antiseptics available for dental purposes.

A wide range of subject is covered in a prelude to the detailed consideration of irregularities of the teeth, and is both philosophical and much to the point.

Usually the opinions of others are well received, but occasionally allusion is made to some ignorance displayed as "a capital parody on the methods of scientific experiment," and again as "reasoning of the loosest character such as we often have to regret in dental literature," and whilst it is likely enough that those to whom these remarks apply will receive them quite undismayed, yet there are many who will easily find scattered throughout the book samples which serve as excellent models of method both of scientific reasoning and experiment.

Some readers may complain that the author's opinions are sometimes vague, and leave them in doubt what to believe; this may be due to a want of further facts and evidence. In no book aspiring to more than the merest leading principles can dogmatic statement be made without risk of the reader having to unlearn what he has learnt.

The pathology of the pulp hardly receives adequate treatment in the present edition, but if, as we fancy, the whole book is in process of being re-written, the danger of putting new wine into old bottles being in one or two places still apparent, this subject also may find a more ample treatment later on.

The naming of chapters might occasionally be revised, for we find porcelain inlays in the chapter called "Methods of introducing Gold;" a similar remark applies to that named "Treatment of the Dental Pulp."

It remains to add that the work is better illustrated than formerly, and that to fully appreciate the seven hundred and odd pages it must not merely be read but studied, it will then be apparent that the "System of Dental Surgery" is still in its lusty youth.

THE ADMINISTRATION OF NITROUS OXIDE AND OXYGEN FOR DENTAL OPERATIONS. By Frederic W. Hewitt, M.D. Claudius Ash & Sons.

The author's work upon the use of the mixed gases is so well and justly appreciated by the dental profession that this book will be generally welcomed. Although Dr. Hewitt has published many papers on the subject, there was a distinct need for such a concise yet sufficient account of his method as is to be found in the handy little volume before us. All the essential points of practice which had been formerly laid down have been incorporated here; but the value of the book is enhanced by the rigorous exclusion of much that had been described in earlier contributions. The evolution of the apparatus, for example, while of considerable interest, is not necessary for the understanding of the present method, and we are glad to note that practical usefulness is kept in view throughout. The book begins with a brief history of nitrous oxide, and a fuller historical account of the use of oxygen with nitrous oxide follows. The apparatus is next admirably described. Chapter III. deals with the preparation of the patient, Chapter IV. with the administration, and Chapter V. considers different types of patients, and the necessary modifications of procedure. The remaining three chapters discuss the anæsthesia obtained, exceptional cases, and after effects. Dr. Hewitt's work has always been characterised by thoroughness, and he has also succeeded in compressing this book into 88 pages of nice large type, so that we feel its popularity is assured. There is, however, one matter regarding which one wishes the author had descended to further, in fact to the fullest, detail. The signs indicating the need to stop the operation are what is referred to; for exactly because there are "no systematic rules," one seeks for full information of the various phenomena which may help one's judgment of this difficult question. But the book is just what it aims at being—a clear and reliable guide to the practice of the method.

Miscellanea.

The Late Dr. Magitot.

From *L'Odontologie* for May, 1897, we learn that at a meeting of the Académie de Médicine held on May 18, an extract was read from the will of M. Magitot, according to which he left to the Academy a sum sufficient to realise an annual income of 500 francs, which is bequeathed for the purpose of founding a biennial prize of 1,000 francs (£40), called "Magitot's prize," destined to reward the best work upon stomatology or odontology. In addition to this he also leaves to the Academy that portion of his library containing works on stomatology and odontology. Oddly enough the almost fanatical bias of Magitot against dentists is apparent even in his last will and testament, for none may compete for this prize unless they are *doctors in medicine.*

In the same number of this journal Dr. E. Sauvez contributes an obituary article on the late Dr. Magitot, which is of great interest. It is of a sympathetic character, and appreciative of the great works performed by Magitot. It shows that the famous theorist was not a dentist in the ordinary acceptation of the term. He would not acknowledge the dental schools of France nor the associations of dentists, holding the view that only doctors of medicine should be dentists. There are in France about 2,000 dentists, of whom 60, or at the outside 100, are doctors in medicine. Magitot only wished to recognise the latter; as to the 1900 remaining ones, who every day rendered services to humanity, he refused them the right of existence. Magitot founded in 1888 the Société de Stomatologie, uniquely composed of doctor-dentists, who since 1888 re-elected him every year as their President. He was also a chevalier of the Legion of Honour. Dr. Sauvez laments that his great countryman did not obey his legitimate call and place himself at the head of the 2,000 dentists in the Republic, and regrets that in consequence he did not leave behind him in the hearts of his colleagues the same memory as the late Sir John Tomes did in England. The keynote of Dr. Sauvez's article is "union," and will, perhaps, further advance that movement for the consolidation of French dental interests, which has been going on for some time.

We observe that Dr. Pietkiewicz has been appointed to succeed Magitot in the Presidency of the Société de Stomatologie.

Osteoma of the Lower Maxilla.

M. Lejars, in *Bulletin Médicale*, quotes the case of a woman, aged 42, a pure Breton, who could not speak French. She was admitted to the Hospital Beaujon. For about ten years she was troubled with a small indolent tumour situated at the level of the ascending ramus of the mandible; latterly this tumour had increased to the thickness of a chestnut, and stood out very prominently. It was hard and formed part of the bone; quite recently it had caused her severe pain. No dental anomalies were present. The ablation was accomplished by means of the chisel and mallet; the histological examination showed that it was formed of pure osseous tissue. A cure was the result.

Implantation.

M. Mendel Joseph presented a patient before the Odontological Society of Paris (March 9, 1897), for whom he had implanted the first right maxillary pre-molar. The operation was performed in the month of January, 1895. The tooth which was to be replaced had been extracted about three months before the implantation; it was affected with deep caries, which had produced serious infectious complications in the alveolar and gingival regions. In order to succeed the author (1) made an alveolus as deep as it was possible, and of such a diameter that the root of the grafted tooth would be tightly gripped; (2) he insured the immovability of the grafted tooth during the process of its consolidation; (3) he operated under the best antiseptic conditions, and insured great cleanliness in the buccal cavity after the operation. For making the artificial alveolus he employed Ottolengui's drills, whose cutting powers are of high quality. The size of the tooth to be implanted was greater than that of the extracted tooth, and he was therefore obliged to reduce the tooth by the aid of the file. He thus obtained a rough surface more likely to bear the repressive modifications of the first phase in the process of consolidation. The implanted tooth was previously rendered aseptic by a prolonged immersion in a 5 per cent. phenicised aqueous solution. The fixture of the tooth was obtained by the aid of ligatures of silver wire attached to the incisor teeth ; in order to avoid the shock of the antagonistic teeth, the bite was kept quite free. The work of consolidation progressed slowly ; at the end of two months the person was able to eat with the new tooth, but it was not until the expiration of the fourth month that the consolidation became perfect. At the time the case was reported, namely, two years after the operation, the tooth was still firm.

The School of Women Artificial Teeth Mechanics, 65-66, Chancery Lane, W.C.

In the interest of the public, and particularly those girls who might possess a little money, and who might be induced to part with it by the artfully-worded pamphlet in our hands, we feel it our duty to offer a warning on the question of female labour in dentistry.

First of all, we must denounce the statement made that there is a sufficient demand for at least the following number of women dental mechanics : Great Britain, 6,000 ; France, 6,000 ; Rest of Europe (at least), 8,000 ; America and Canada, 1,500 ; Australia and New Zealand, 3,000; India, 3,000; South Africa, 2,500.

It is a matter of common knowledge that the number of women dentists who are qualified dental practitioners is well under double figures, and the same estimate may be placed on those having a knowledge of dental mechanics. The reason is that mechanical dentistry requires a severe training, almost too much for frail women.

For five guineas this school offers to form a girl into a junior dental mechanic in three months, which the pamphlet says would enable this girl to earn from 10s. to 25s. per week. This phantom junior mechanic could never exist in real life, for there, a junior mechanic before he is entrusted to do any important work must have served from two to four years, and when his apprenticeship is completed he seeks a place as an "improver," and the apprenticeship of many lasts from five to seven years. In addition to this, it may be stated that the number of junior mechanics required is not very large. The market for all grades of male mechanical assistants, in fact, is over-crowded, and any girls, even if they had acquired a perfect knowledge of dental mechanics, would have the greatest difficulty in getting a living.

The pamphlet says that "any woman mechanic can start business without capital, as no materials or stock are required until an order is taken." This is another mis-statement with which the pamphlet is bristling.

We observe that rubber work will be taught for a fee of ten to twelve guineas, and metal work for a fee of eighteen to twenty guineas ! ! !

If any young lady is infatuated with the desire of learning mechanical dentistry, let her go to a regular qualified dentist. At the same time, knowing what mechanical work is, the keen competition, the poor chances for the young lady, we should advise her not to learn mechanical dentistry at all, and above all, not at 65 and 66, Chancery Lane, W.C.

The Owen Memorial.

The bronze statue of the late Sir Richard Owen, executed by Mr. Thomas Brock, R.A., is now placed in the hall of the Natural History Museum. It is pronounced by all who were personally acquainted with the great anatomist to be an admirable likeness, and worthy of the position which it occupies. The total amount received by the Committee of the Owen Memorial Fund was £1,103 8s. 11d.; the expenses for printing and posting circulars and clerical assistance amounted to £75 8s. 8d., and the balance has been placed in the hands of Mr. Brock. The Numidian marble pedestal on which the statue stands has been provided by the trustees of the British Museum.

Damages for Removing the Wrong Tooth.

An action has recently been tried at Clerkenwell County Court in which the plaintiff sued a dentist named A. Rogers, for damages from removal of the wrong tooth. The tooth which should have been extracted was a third molar, but the forceps, according to the defendant, strayed so that the tooth in front was extracted by mistake. The defendant maintained there was no negligence on his part and that it was a pure accident. The judge, however, thought otherwise, and awarded the patient £10 damages and costs.

The Sheffield Royal Hospital has been added by the Royal College of Surgeons of England to the list of hospitals, the dental departments of which they recognise for dental hospital practice.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Electricity in Dentistry.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—The employment of electric motors for working dental apparatus has not unfrequently led to accidents which might well have been attended with serious results. As the use of electricity by dentists is rapidly growing into favour, it is a matter of considerable importance that such accidents should be guarded against with the greatest care, and that only those should use such apparatus as have at least an elementary knowledge of electricity.

In an accident of the kind occurring not long since, the operator holding the apparatus already in motion reached for a gas bracket to throw a better light. He at once received a violent shock, tore the bracket down from the wall, was singed by the burning gas, thrown violently up and fell heavily; the patient went into hysterics. If an operator were to receive an electric shock whilst actually engaged with the patient's mouth, it is easy to see what a serious accident might occur.

This case must have happened through some defect in the insulation of one of the leads, in consequence of which a contact was made with the gas-pipe.

I am, sir,
Yours truly,
J. H. EDWARD, L.D.S.

117, *Stockport Road,*
Manchester.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 8. AUGUST 7, 1897. VOL. XVIII.

The Coming Annual General Meeting.

THE near advent of the Dublin meeting reminds us forcibly of the rapid flight of time in the still young life of the British Dental Association, for nine years have sped swiftly away since that memorable gathering in 1888 when the ever-hospitable and friendly portals of the capital of the Emerald Isle were thrown open in lordly welcome to the members of the Association and its friends from all parts of the world. Nine years have flown and meetings have been held in many parts with increasing enjoyment and success, but the memories of our first welcome by our Irish Associates is still green as their own fair land, and these happy recollections will doubtless act as a powerful incentive, urging members, in spite of the heat and the reaction following the turmoil of the Jubilee season, to pack up their traps, brave the perils of St. George's Channel, and once more be refreshed by the genial brightness and unbounded hospitality of our friends in Erin's Isle.

The Association is the Association wherever it finds itself; its solid political aims have to be seriously and conscientiously considered, its scientific work maintained at the high standard now expected of it; but notwithstanding a somewhat necessary sameness in the routine programme the local colour lent to it by its varied surroundings ever affords new phases of novelty and interest as year by year we migrate from place to place. This year there need be no anxiety as to the success of the function, whether we regard it from the point of view of the political work that will be done, the scientific work that will be recorded, or the friendships that will be made or strengthened during that splendid entertainment in the giving of which Irishmen acknowledge no rivals. Our lists and detailed programmes which our indefatigable Secretary keeps up to date as accurately as is possible in this world of error will tell the tale in full to our readers; here we can only touch lightly upon a few salient points.

The Representative Board will doubtless have its hands full, for there are whispers of an amendment to "the Act" as regards Section 3. Any of our members who have followed our legal history will know that this means very hard work for all concerned, and if the Association in conclave should decide upon general action to move for reform it will, we trust, be as wise and cautious as it has been in times past, and advance upon safe and sure lines. Mr. Canton will say good-bye to us as President, a decade ago it was as Secretary, but whatever the office in which he serves the Association he always leaves behind him the sense of good work quietly done, and we hope that we shall see more good work of his in other capacities for many years to come.

Dr. Stack's welcome as President will be peculiarly enthusiastic. Always a popular favourite with us all, it may be fairly said that he shines in every branch of the profession he has adopted. His degrees and honours have been won wherever it was possible to win them ; in fact, if he chose to append the letters to which he is entitled to his name it would make a very long line of print, but the honour we fancy he is proudest of is the affection with which we all regard him. We hope that his presidential task will be allowed to sit as lightly as possible on his shoulders, for his energy is greater than his strength. A glance at the list of his supporters, Dr. A. W. W. Baker, Mr. D. Corbett, jun., Mr. J. J. Andrew, and Mr. Murray, not to mention many others, show that there will be broad and capable shoulders to help bear the burden.

The domain of science will not be forgotten ; microscopy will make increasing demands upon the time of the meeting, for happily for us we advance scientifically at an even greater pace than politically. The new President, not content with his already full programme, will spare a quiet half-hour to pure science. Outside microscopy there is plenty of good scientific work, the fruits of which will be laid before us at our annual banquet. Mr. Booth Pearsall, who ten years ago was managing all the complicated details of our first Irish gathering, will this year enjoy a well-earned rest, but we are gratified to note that he will contribute to our scientific harvest with a paper on "The Edentulous Mouth"—a fine subject and sure to be well treated.

The entertainment of guests is a matter in which our friends in Dublin are past masters, and those of our members who are unfortunate enough to be forced to forego the treat that is preparing for them may well envy their more fortunate brethren. Those of us who remember '88 can form an idea of what is in store; we can do no justice to the prospect in print, our only advice is *go and see*, and you will remember it with pleasure ten years hence, as many of us remember '88 now.

The demonstration list is already strong and attractive, crowns, Röntgen rays, furnaces, flasks, in fact all the dental wonders of the day. The good work of good men during a good year—again we say "go and see."

To sum up, we must fill a bumper to our faithful old friend, Mr. Canton; we must fill again to welcome our faithful old friend, Dr. Stack; and all the heroes of the never-to-be-forgotten gathering ten years ago. Perhaps we must pause for a moment of sad regret for the kindly friends who were working with us then, but whose work is done; we need not name them for we shall none of us forget them. The work they loved is still progressing, and it is to witness its progress that we hope every man with a portmanteau, a free week, and a love of his profession will start for Dublin, and that it may befall us that in the midst of new pleasures, new learning and new advancement

> "Soft memory brings the light of other days around us."

Investing Material.

One of the best investments for metal cases that are required to withstand a very high degree of temperature, is a mixture of two parts of not too fine plaster of Paris to one part of ground asbestos, grade 3, that has been passed through a No. 12 sieve to rid it of any coarse fibres. If the plaster is strong, a little less of it may be employed in the mixture. This will not crack or shrink.—*Dental Practitioner and Advertiser.*

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Annual General Meeting.

The Annual General Meeting of the British Dental Association will be held in the Medical School Buildings of Trinity College, Dublin, on Tuesday, Wednesday, and Thursday, August 17, 18, 19 next.

PROGRAMME SUMMARY.

Monday, August 16.

9 p.m.—Reception at the Royal College of Physicians, by Mr. J. J. Andrew, President of the Irish Branch, and the Reception Committee. Music.

Tuesday, August 17.

9.30 a.m.—Meeting of the Representative Board, in the Registrar's Room, School of Physic.

11 a.m.—General Meeting in the Anatomical Theatre, School of Physic.

Reports of Treasurer and Hon. Secretary.

Reports and general business. Full Agenda will be published in the official Programme.

12.15 p.m.—(Visitors admitted). Valedictory Address of Mr. F. Canton.

Address of the President, Dr. R. Theodore Stack.

1.15.—Adjournment. Luncheon will be served in the Examination Hall, Trinity College, for members and their guests. Tickets, including wine, 2s.

2.30.—Reading and discussion of papers till 5.

4.30—7.30.—Mrs. Moore, Mrs. Andrew and Mrs. Stack, "At Home," at Rockfield.

7 p.m.—Dinner to the Representative Board at the Royal College of Surgeons, St. Stephen's Green.

9.30 p.m.—Smoking Concert given by the "Odontoblasts," at the Arts Club, St. Stephen's Green.

Wednesday, August 18.

THE MICROSCOPICAL SECTION IN ANATOMICAL THEATRE.

President: DR. A. W. W. BAKER.

10 a.m.—Opening address by PRESIDENT. Papers, with lantern slides.

1.15 p.m.—Adjournment for luncheon.

2.30 p.m.—Microscopical Section resumed till 5.

Demonstrations in Dental Microscopy, &c.

Special attention will be given at this meeting to the Microscopical Section, and a very large selection of the newest microtomes, apparatus for dental microscopy, lantern equipments, Röntgen Ray instruments, and all the more expensive adjuncts of a well furnished laboratory for scientific dental work will be on view and will be exhibited in actual operation.

9.30 p.m.—Conversazione and reception by the President of the Association and Mrs. Stack, in the Science and Art Museum, Kildare Street. Military bands, &c.

Thursday, August 19.

9.30 a.m.—Annual Meeting of Subscribers and Friends of the Dental Benevolent Fund in the Anatomical Theatre.

Hon. Secretary's Report and Business.

10.30 a.m. precisely. — Demonstrations at the Dental Hospital.

1.15 p.m.—Adjournment for luncheon.

2.30 p.m.—General Meeting.

Reading and discussion of Papers.

Adjourned business and concluding business of the Association.

Visit to John's Lane Distillery (by kind invitation of Sir John Power). "Afternoon tea."

7.15 p.m.—The Annual Dinner of the Association in the Dining Hall, Trinity College. Tickets one guinea.

The Ladies' Committee will take parties to various places of interest about the city, *e.g.*, The Phœnix Park and Zoological Gardens, the Cathedrals, St. Michan's Church where Handel composed his oratorio of the "Messiah," &c.

Friday, August 20.

EXCURSION.

A special train will leave Harcourt Street Terminus at 10.25 a.m. for Rathdrum, Co. Wicklow, where the party will be met by carriages for conveyance to the picturesque Valley of Glendalough. Luncheon will be served upon arrival in a large marquee erected in the Hotel grounds, and the return journey will be so arranged that members desirous of crossing the channel the same evening can catch the mail boat leaving Kingstown for Holyhead at 8.15 p.m. The special train will include a van for cycles, and those who travel "on the wheel" can detrain at Bray, Rathnew, or Rathdrum, and enjoy a ride through some of the most beautiful scenery of Wicklow, arriving at Glendalough in time for luncheon.

GENERAL SECTION.

PAPERS.

Papers by W. BOOTH PEARSALL, F.R.C.S.I., "The Edentulous Mouth and its Treatment with and without Springs." "Some Aids in Practice."

Short communication by S. J. HUTCHINSON, M.R.C.S., L.D.S.Eng., "A Few Notes in Practice."

Paper by T. E. CONSTANT, M.R.C.S., L.R.C.P.Lond., L.D.S.Eng., "The Trophic Function of the Dental Pulp. Its Physiological Significance."

Paper by DENCER WHITTLES, L.D.S.Eng., "Some Factors which cause the Eruption of Teeth."

Paper by T. QUINLAN, "The Conservative Treatment of Exposed and Diseased Pulps as opposed to Extirpation."

DEMONSTRATIONS.

"Automatic Hot Water Apparatus," by J. J. H. SANDERS, L.D.S.I.

"Crown Work," by WILLIAM HELYAR, L.D.S.I.

"Tube Crown," by J. J. ANDREW, L.D.S.Eng.

"Dowel Crowns on Six Front Teeth," by ALFRED JONES, L.D.S.I.

"A new form of Crown," by S. J. REEVES, L.D.S.I.

"Application to several practical cases of Angle's Apparatus," by EDWARD A. ANGLE, D.D.S.

"Röntgen Ray Photographs of Abnormalities of Teeth;" several will be taken and exhibited as lantern slides each within half an hour, by W. S. HAUGHTON, M.B.

"The use of Dall's Crown and Bridge Furnace with Gas," and a similar "Furnace with Air Gas (using Ash's generator)," by WILLIAM DALL, L.D.S.Glas.

"Improved Gas Furnace," by J. H. GARTRELL.

"The use of Three-part Flask in Vulcanite Work," by E. LLOYD-WILLIAMS, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng.

"The Pearsall Moulding Flask," by R. P. LENNOX.

"A Method of Making a Deep Counter Die with all the Advantages and none of the Disadvantages of a Shallow Counter," by R. P. LENNOX.

"A New Shot Swager for Continuous Gum-work," by J. H. GARTRELL.

THE MICROSCOPICAL SECTION.

President. A. W. W. BAKER, M.D., M.Ch., F.R.C.S.I., D.D.S.

President-elect. F. J. BENNETT, M.R.C.S., L.D.S.Eng.

Hon. Secretary. A. HOPEWELL SMITH, M.R.C.S., L.R.C.P., L.D.S.Eng.

The meetings of the Microscopical Section will be held in the anatomical theatre, Medical School, Trinity College, Dublin, and will commence on Wednesday, August 18, at 10 o'clock.

The business of the Section will include the reading and discussion of papers, lantern displays by means of the electric lantern, demonstrations in the use of histological and other apparatus, and an exhibition of microscopic slides, photomicrographs, &c.

Opening address by the President.

Paper by R. THEODORE STACK, M.D., F.R.C.S.I., L.D.S.Eng., D.M.D., "A Contribution to the Prophylaxis of Dental Irregularities."

Paper by C. S. TOMES, F.R.S., M.R.C.S., L.D.S.Eng.

Paper by STORER BENNETT, F.R.C.S., L.R.C.P., L.D.S.Eng., "A new Method of Staining Nerve Fibres in the Dental Pulp."

Papers by F. J. BENNETT, M.R.C.S., L.D.S.Eng., (*a*) "Concerning the Expansion and the Closure of the Dentinal Tubes"; (*b*) "Some Ancient Jaws of Irish Origin."

Paper by J. ALFRED SCOTT, M.D., F.R.C.S.I., Professor of Physiology, R.C.S.I., "Colouring Lantern Slides for Scientific Demonstrations."

Paper by J. CHOQUET, D.E.D.P. (Paris), "Dental Anatomy," with lantern slides.

Paper by A. HOPEWELL SMITH, M.R.C.S., L.R.C.P., L.D.S.Eng., "Calcareous Degeneration of the Dental Pulp," with lantern slides.

Lantern Exhibition, by LEON WILLIAMS, D.D.S., L.D.S.I., illustrating the pathology of enamel.

Lantern Exhibition, by DENCER WHITTLES, L.D.S.Eng., illustrating dental histology

Exhibition by E. M'WEENEY, M.D., F.R.C.S.I., Professor of Pathology, Catholic University, "Permanent Museum Cultures of various Micro-organisms."

Demonstration by DENCER WHITTLES, L.D.S.Eng., "Various Methods and Processes in use in Dental Microscopy."

Demonstration by the Hon. Secretary, on "The use of Choquet's Microtome."

GENERAL INFORMATION.

Postal and Telegraph facilities will be afforded Members at the Secretary's office, which adjoins the meeting room. Letters and telegrams addressed to Members will be received there.

N.B.—On and after August 14th inst., letters for the Hon. Secretary of the British Dental Association should be addressed to him at this office.

Members who have accepted the various invitations specified on the Reply Post Card recently issued will find cards and programmes awaiting them on their arrival in the Secretary's office.

Of the various routes to Dublin the following are recommended for comfort, celerity, and punctuality :—

Royal Mail route *via* Holyhead and Kingstown (1st, 2nd, 3rd class rail, with saloon on boat), 2 services daily, Sundays included. Sea passage $2\frac{3}{4}$ hours. See Bradshaw's Railway Guide, p. 682.

Royal Mail route *via* Stranraer and Larne (1st and 3rd class rail, with saloon on boat), 2 services daily except Sundays, when none. Sea passage 80 mins., or sea and lochs together 2 hours from port to port.

Leopardstown Races take place on Saturday, August 21. The course is near Dublin.

The Dublin Horse Show commences on Monday, August 23.

Messrs. Claudius Ash & Sons, The Dental Manufacturing Company, The Detroit Dental Manufacturing Company, and Messrs. Cotterell will exhibit dental novelties, &c., in the Anatomical Room of the School of Physic.

A list of the exhibits will appear later in the official programme.

LIST OF HOTELS AND LODGINGS AT WHICH VISITORS CAN BE ACCOMMODATED.

Shelbourne, bed, breakfast, and attendance, 8s. Per day, 12s. 6d.
Metropole, „ „ „ 6s. „ 10s. 6d.
Gresham, „ „ „ 6s. (For two occupying one room, 10s.)
Morrison's, bed, breakfast, and attendance, 6s. Per day, 10s.
Maples', „ „ „ 6s. „ 10s.
Hibernian, „ „ „ 6s. 6d.
Dolphin, „ „ „ 5s. 6d.
Hamman, „ „ „ 5s. 6d. to 6s. 6d.
Jury's, „ „ „ 6s.
Central, „ „ „ 5s. 6d.
Russell's Temperance, bed, breakfast and attendance, 5s. to 5s. 6d.
Nassau, „ „ „ „ 4s. 6d.
Fanklin's, bed, breakfast, and attendance, 5s.
Grosvenor, „ „ „ 5s. 6d.
Royal Marine Hotel, Kingstown, within easy reach of town by train or electric tram.

N.B.—No hotel has been selected as the social headquarters of the Association on this occasion, but a large smoking and assembly room has been engaged at the Grosvenor Hotel, Westland Row, where members can meet after the conclusion of each day's functions.

Comfortable lodgings can be had as under :—

Lower Baggot Street.—96, and 97, Mrs. Brewster.
115, Mrs. Stone.
116, Miss Campling.
117, Mrs. Gardiner.
122, Mrs. Guy.
Upper Baggot Street.—31, Mrs. Boston.
Lower Mount Street.—71, Miss Hole.
Hollis Street.—35, and 36, Mrs. Gilbert.
Clare Street.—14, Mrs. Tuke.
Lower Leeson Street.—78, Mrs. Murphy.

Terms on Application.

COMMITTEES.

Reception.

*J. J. Andrew, *President.*
D. Corbett, Junr., *Vice-President.*

E. S. Ash. *A. W. W Baker. *S. J. Bishop
W. J. Bowden. W. Paton Boyd. D. Corbett.
C. M. Cunningham. V. Doyle. L J. Egan.
W. H. Elwood. *G. J. Goldie. J. McStay.

W. McStay.
*G. P. Moore.
R. F. Moore.
*K. E. O'Duffy.
*P. O'Meehan.
H. O'Keeffe.
*S. G. Reeves.
Cameron Rogers.
*H. G. Sherlock.
*D. McC. Smith.
*R. T. Stack.
J. Stanton.
F. O. Stoker.
J. F. Studley.
*J. W. Thacker.
*J. S. Thomson.
M. F. Thomson.
R. P. Thomson.
J. S. Tucker.
*H. Williams.
*G. W. Yeates.
*G. M. P. Murray, *Secretary.*

* Denotes Member of General Purposes Committees.

Demonstration.

Microscopical.—A. W. W. Baker, *President.*
Fillings.—H. Williams, *President.*
J. S. Thomson, *Vice-President.*
K. E. O'Duffy, *Secretary.*
Crowns.—G. W. Yeates, *President.*
S. J. Bishop, *Vice-President.*
G. P. Moore, *Secretary.*
Mechanical.—D. Corbett, junr., *President.*
P. O'Meehan, *Vice-President.*
G. J. Goldie, *Secretary.*
Orthodontia.—W. H. Elwood, *President.*
D. McC. Smith, *Vice-President.*
S. G. Reeves, *Secretary.*

NOTICE.

Election of Ten Members to the Representative Board.

In addition to the retiring members, Messrs. J. Ackery, G. Brunton, W. H. Coffin, H. Biging Mason, W. H. Breward Neale, and Lawrence Read, who are eligible for re-election, and who have expressed their willingness to serve, if re-elected, the following members have been nominated :—

G. G. Campion (Manchester), nominated by
I. Renshaw.
Thomas Murphy.
G. O. Whittaker.
E. P. Collett.
W. E. Harding.
G. Brunton.

S. J. Hutchinson (London), nominated by	J. Smith Turner. C. S. Tomes. R. Theo. Stack. David Hepburn. J. Howard Mummery. W. H. Breward Neale.
C. Robbins (London), nominated by	J. Smith Turner. W. H. Woodruff. F. Canton. J. Howard Mummery. W. Hern. W. B. Paterson.
J. C. Storey (Hull), nominated by	I. Renshaw. Thomas Murphy. G. O. Whittaker. E. P. Collett. W. E. Harding. G. Brunton.

W. B. Paterson, *Hon. Secretary.*

Central Counties Branch.

The Thirteenth Annual Meeting of the members of the Central Counties Branch of the British Dental Association was held in Birmingham, on Friday and Saturday, July 9 and 10.

A Meeting of the Council was held in the Windsor Room of the Grand Hotel at 5 o'clock, the President, Mr. Frank Huxley, in the chair.

Nominations of gentlemen to fill the various offices were made to be laid before the General Meeting of members, and there were three nominations of gentlemen for membership of the Branch.

It was proposed by Mr. Richards, and seconded by Mr. Breward Neale, and carried unanimously that " Mr. Charles Sims be elected an honorary member of the Branch under rule 16."

The following gentlemen attended the Meeting :—Messrs. F. E. Huxley (Birmingham) ; H. R. F. Brooks (Banbury) ; Breward Neale (Birmingham) ; F. W. Richards (Birmingham) ; A. Vickery (Coventry) ; J. Mountford (Birmingham) ; J. E. Parrott (Birmingham) ; A. E. Apperson (Handsworth) ; Pearson (Burton-on-Trent) ; J. Dencer Whittles (Birmingham) ; F. R. Howard (Birmingham) ; W. Geekie (Oxford) ; W. M. Knott (Birmingham) ; Hilditch-Matthews (Birmingham) ; Cale-Matthews (Birmingham) ; A. E. Donagan (Birmingham) ; H. Hordern (Leamington) ; J. Smith Turner (London) ; C. D. Marson (Stafford) ; P. Naden (Birmingham) ; C. Sims (Birmingham) ; Dr. Sydney Short

(Birmingham); Dr. W. R. Jordan (Birmingham); Mr. Vernon Knowles (Reading); W. J. Fisk (Watford); G. Foster (Birmingham); A. W. Steynor (Birmingham); Tom St. Johnstone (Birmingham); and W. Owen (Wolverhampton).

The Business Meeting for elections, &c., commenced at 5.30. Mr. HUXLEY in the chair.

Letters of apology were read from Messrs. W. E. Harding, J. Humphreys, Roff King, Coleridge-Roberts, and Craig.

The minutes of the last meeting were read, confirmed and signed.

The HON. TREASURER (Mr. J. Mountford) then read his report, which was most favourable, showing an increase in subscriptions of over £7, and an increase in the balance in hand of £10.

Mr. HUXLEY proposed and Mr. BREWARD NEALE seconded its adoption. This was carried unanimously.

The HON. SECRETARY then read his report as follows :—

GENTLEMEN,—I have great pleasure in offering to you my report of the proceedings of the Central Counties Branch of the British Dental Association for the year concluded. Since the last report of the Hon. Secretary we have held in addition to the Annual Meeting at Oxford, four meetings of the Branch, and five of the Council. We have had papers given as follows :—Mr. Howard, on "Some Results of Experience with a Downie Furnace"; Mr. Whittles, on "Our Teeth and their Osseous Environments with Lantern Photographs"; Mr. Cale-Mathews, on "The New Curriculum of the English College"; Mr. Knott, "Notes on a case treated by the Angle method of Regulation"; Mr. Howard, on "A Short Description of a method of Treating Chronic Alveolar Abscess by opening through the Alveolus"; Mr. Brooks, on "The Treatment of Dead Teeth."

There have also been given several casual communications by gentlemen which have been both interesting and instructive.

Our membership roll has increased fairly well, standing at present at 63, as compared with 57 at the last Annual Meeting.

There have been no resignations. The collections in aid of the Benevolent Fund during the past session have realised the sum of £3 12s. 10d., and in addition to this two more of our members have become annual subscribers to the charity. I may say that the Committee of the Benevolent Fund is extremely anxious to obtain more annual subscribers, and there is at present a communication from that Committee on the subject which will be brought before your Council at an early date. I would draw attention to the fact that to-day for the first time you will be called upon to elect a member of this Branch to serve upon the Representative Board, so that the Central Counties Branch will possess no less than seven representatives on the governing Council of the Association; namely, Mr. Breward Neale, Messrs. Richards, Harding and Helyar, who were elected last year, the gentleman whom you elect this evening, and your two *ex-officio* members, namely, your President and Hon. Secretary. Mr. Neale was elected in 1894, and consequently may be one of the ten to retire this year, but if so it is highly probable that he will be elected again by the members of the Association at the election at the end of the month. Therefore, I think you will agree that for a small branch we are extremely well off in this matter.

In conclusion, Gentlemen, I would offer my sincere thanks to all those who have, by their efforts and advice so freely given, helped to make the life of the present Honorary Secretary a happy one and his duties more easy. There is still much, only too much room for an improvement in the matter of general interest in the doings of the Society among the members of the Central Counties Branch. Surely, there are many of those who come rarely to the Branch Meetings, who would do much real good by coming and giving their opinions on the subjects which are constantly before us for consideration. I hope next session, that our members will turn up in greater numbers to our meetings, and be more ready to give up a little time to the needs of this Branch of the British Dental Association, and to the cultivation of friendly professional intercourse.

On the motion of Mr. HUXLEY, seconded by Mr. BROOKS, the foregoing report was unanimously adopted.

The Annual Elections then took place as follows :—Representative Board, Mr. F. E Huxley, proposed by Mr. Richards, seconded by Mr. Neale ; President-elect : it was decided to leave this open as the Council was not prepared to nominate a gentleman, but it was suggested that the next Annual Meeting should be held at Leicester or Worcester ; Vice-Presidents : in accordance with the custom of the Branch, Mr. Huxley (the retiring President), and Mr. J. Humphreys were elected ; the Hon. Treasurer (Mr. Mountford), and the Hon. Secretary (Mr. Hilder), were re-elected ; Messrs. Hilditch-Matthews and Cale-Matthews were elected Honorary Auditors.

For the Council, to take the place of Messrs. Neale and Grove, who retired by rotation, Messrs. Neale and Richards were proposed by Mr. Brooks, and seconded by Mr. Howard. Mr. Richards proposed that Messrs. Knott and Whittles be elected in addition. This was seconded by Mr. Cale-Matthews, and after some discussion, in which several speakers gave it as their opinion that it was desirable to have further representation, the four gentlemen named were elected *nem. con.*

Mr. HUXLEY, after a few valedictory remarks, vacated the chair in favour of Mr. H. R. F. BROOKS, who delivered the following inaugural address :—

GENTLEMEN,—Upon occupying for the first time the position of your President—an office to whose dignity my various predecessors have so worthily contributed—it is my duty as it is my pleasure to assure you that I am deeply sensible of the honour you have conferred upon me.

The British Dental Association, of which our own Branch forms a part, occupies to-day an important place amongst similar organisations. It has as its *raison d'être* the dental profession, which is indebted in no small measure for its recognition as such to its influence. It exists in scarcely less degree for the welfare and protection of the public. How best it may fulfil its dual object is a question that has much exercised the minds of the members, and, in the contest between dental politics and dental science, it is possible that the latter has not always enjoyed the priority to which it is entitled. The suppression of charlatanry is a very essential part of the Association's operations, and may from time to time render necessary a stringent enforcement of the provisions of the Dentists Act. It is wise, however, to remember when urging prosecutions, that the popular anti-monopolist mind has insufficient knowledge to altogether discard its suspicion of this and the Medical Acts, and that any apparent persecution of a transgressor is calculated to propagate his error. In carefully considered cases proceedings are probably desirable, but education of the public, if a slower, is a much surer weapon against illegal practice. In this direction much has been accomplished since the formation of the Association. Whether all suitable means have been exhausted is a question which the various branches—the Central Counties of course amongst them—might profitably discuss, for the average layman is still considerably in doubt as to the distinction between the duly qualified dentist and the empiric. Indeed, it can hardly be said that the improvement in general appreciation is commensurate with the advance of the profession in scientific knowledge and skilful methods of practice.

The present is a time of retrospective comparisons, and there is a strong temptation to trace the evolution of the contemporary dentist and his art from the material of sixty years ago. Others far more capable than myself have so completely dealt with the subject that I will only pay a tribute to those honoured fathers of the profession to whose patient labours and investigations, in the face of great difficulties, modern dentistry owes no less than to those of their more favoured successors. By neither, however, have all the problems been solved. For the student—and we should all be students—there are vast paths as yet untrod—theories to be proved, fallacies to be exposed, discoveries to be made on the practical, as well as on the scientific, side of our specialty. The acquisition of knowledge is a duty owing not alone to our contemporaries, but also to those who follow us. The late Professor Huxley once said; "If, as our race approaches its maturity, it discovers, as I believe it will, that there is but one kind of knowledge and but one method of acquiring it, then we who are still children may justly feel it our highest duty to recognise the advisableness of improving natural knowledge, and so aid ourselves and our successors in their course towards the noble goal that lies before mankind."

There are many directions in which we may pursue our studies according to our several inclinations.

> "Our needful knowledge, like our needful food,
> Unhedged, lies open in life's common field,
> And bids all welcome to the vital feast."

For the histologist the dental tissues offer great attractions. He has no difficulty in finding subjects requiring elucidation, such as the much debated question of Nasmyth's membrane, concerning which Mr. Paul has resuscitated Waldeyer's theory of an epithelial origin. He has also the dentinal tubes, whose functions are by no means determined—although one of them may very well be, as suggested by Mr. Tomes, the provision of elasticity between enamel and pulp.

That recent and highly important addition to the sciences, bacteriology, has opened up so immense a field of research that its dental application is very little limited by the remarkable investigations of Miller and others into the nature of caries. The germ theory has accomplished a striking revolution of preconceived ideas upon the etiology of disease, and it must be confessed that the study is a most fascinating one. Many abstruse issues in our own branch of surgery which it may assist to explain will suggest themselves; for instance, there are good reasons to believe that the presence of pathogenic, or at any rate, chromogenic, organisms may be demonstrated in most of the so-called chemical enamel stains, though whether as cause or effect, remains to be determined. One of the most troublesome of the lesions we are called upon to treat is that which we term pyorrhœa alveolaris. Its nature is involved in much obscurity and very partial success has attended our efforts. A systematic bacteriological enquiry into its causes would not only add to our knowledge of its pathology but also materially assist in its treatment.

There are various controversial topics which are occupying prominent attention at the present time. The respective merits or demerits of coagulants and non-coagulants of albumen as dressings for dead teeth, in spite of much discussion, are far from being determined, and further information as to their action would be valuable. In another direction the very interesting experiments with amalgams of Mr. Tomes and Dr. Black, whilst enlarging our acquaintance with their properties, may well be amplified, and extended to other plastic filling materials, alone or in combination.

I fear that from many of us the mechanical branch of our art does not receive the personal attention which its importance deserves. There are, however, so many desiderata that we can all indicate experimental work we would wish undertaken. Amongst other things that would be decided additions to our armamentarium are—a non-porous low fusing mineral and gum body, vulcanite of good colour and strength, a practicable detatchable crown.

Such are a few illustrations of the ways in which an individual member may seek to benefit the profession to which he belongs. There are of course numberless other details of both theory and practice capable of amendment. Still, if our knowledge and methods are yet far from perfect, we may, at any rate, congratulate ourselves upon the increased and steadily increasing value of our services to our patients. Unfortunately, from considerations of a financial nature, all the resources of modern dentistry are within the reach of only a percentage of the public. The poorer are unable to pay the fee necessary to compensate for outlay of time and material, and the special Hospitals, even where existent, are inadequate to supply the deficiency. As a result this class largely become the victims of the quackery against which we are doing our best to warn them. It is not easy to see how the difficulty can be met by an extension of the dispensary system, but the dental profession will be unworthy of the responsibilities resting upon it if this problem does not ultimately receive the same satisfactory solution as many that are already of the past. That the future has others in store we cannot doubt, because we know that progress has no finality, and that ignorance and knowledge are only relative abstract terms. But we also know that :—

"The charm dissolves apace.
And as the morning steals upon the night
Melting the darkness, so the rising senses
Begin to chase the ignorant fumes that mantle
Their clearer reason."

Votes of thanks were then passed to Mr. Huxley for his good services as President during the past year, and to Mr. Brooks for his admirable address, after which Mr. Huxley moved and Mr. Breward Neale seconded the following :—"That the sincere condolence of the Central Counties Branch of the British Dental Association, be offered to Mr. Mummery in the sad bereavement which he has of late sustained in the death of his wife."

This was passed amid much sympathy. The meeting then adjourned. The Annual Dinner took place at the Grand Hotel at 7.30, Mr. H. R. F. Brooks, the President, in the chair. The guests present included many of the prominent Pysicians and Surgeons of Birmingham, and authorities of the Dental School, Mr. Smith-Turner, of London, and others. The toast list included "The Queen," "The British Dental Association and the Central Counties Branch," "The Local Medical Societies," "The Birmingham Dental School," and "The President."

On Saturday morning Demonstrations were given at the Dental Hospital, Newhall Street, by the following gentlemen :—"Bicuspid Crown, using Platinum Cap and Ash's Furnace," Mr. Breward Neale. "Impressions in Plaster," Mr. F. W. Richards. "Method of Making Coloured Porcelain Inlay for Labio-cervical Cavities with the Furnace, by A. E. Donagan. "Special Crown," Mr. Vernon Knowles. "Operation under Gas for Removal of Chronic Abscess Sac by opening through Alveolus," also "Specimens of his Dovetailed Porcelain Inlays done four years ago, Mr. F. R. Howard. "The Uses of Diamond Points and Discs," Mr. Vickery. "Anæsthesia with Nitrous Oxide and with Nitrous Oxide and Air," Dr. Sydney Short.

At the conclusion of the demonstrations, the gentlemen present travelled by train to Stratford-on-Avon, having lunch *en route* in the saloon carriage by the kind hospitality of the President (Mr. Brooks), who also arranged that the party should be driven to Charlecote House, Hampton Lucy, Anne Hathaway's Cottage, &c. Afterwards, having had tea at the Shakspeare Hotel, and spent a couple of hours in Stratford itself, the return journey was made to Birmingham during which the thanks of those present were passed to Mr. Brooks for his hospitality, and to those who arranged the meeting, which, as extending over more than the usual one day, proved a successful experiment, warranting repetition next year.

83, *Edmund Street*, A. T. HILDER,
Birmingham. *Hon. Sec.*

Western Counties Branch.

THE Annual Meeting of the Western Branch of the British Dental Association was held on Friday, July 23, at Exeter.

A Council Meeting of the Branch was held in the Library of the Albert Memorial Museum, Exeter, July 23, 1897, at 9.30 a.m., the President, Mr. T. TAYLOR GENGE, in the Chair. Also present: Messrs. H. B. Mason (President-elect), E. L. Dudley, J. T. Browne-Mason, J. Laws, E. Apperley, W. Helyar, E. Brown, S. G. Yates, E. Goodman, A. Kendrick, W. A. Hunt, W. E. Harding, C. A. Hayman, G. Thomson, J. H. Gartrell, J. J. H. Sanders, and T. A. Goard.

Letters regretting absence were received from Messrs. Rogers and McAdam.

The minutes of the last meeting were read and confirmed.

Messrs. Goddard (Tiverton), A. G. Gask (Torquay), E. Goodman (Taunton), and Tomlinson (Weymouth), were elected members of the Association and Branch, and W. Marston of the Branch.

The HON. TREASURER then read his report.

The report of the Council was then agreed upon.

It was resolved to hold the next Meeting at Stroud early in October.

A meeting was held at 11 a.m. in the Art Gallery of the Albert Memorial Museum, Queen Street. Present: Messrs. T. Taylor Genge (President), J. T. Browne-Mason, H. B. Mason, J. M. Ackland, W. J. Goodman, J. A. Mallett, W. Marston, T. G. T. Garland, S. Mundell, W. H. Goodman, T. A. Goard (Exeter); T. G. Williams

(Newport); W. Harding (Shrewsbury); J. Laws (Weymouth); W. Helyar, C. A. Hayman, S. J. Hayman (Clifton); J. H. Whittel (Paignton); A. Gask, J. C. Tippett (Torquay); J. J. H. Sanders, E. Brown (Barnstaple); E. Goodman, A. Kendrick, T. Goodman (Taunton); W. J. Royal, E. L. Dudley (Bath); S. G. Yates, J. Ross, S. H. Wallis (Weymouth); F. T. Haycroft (Exmouth); J. W. Goddard (Tiverton); W. H. Hunt (Yeovil); E. R. Gay (Merthyr); G. Thomson (London); J. H. Gartrell (Penzance); E. Apperley (Stroud). Among the visitors were Messrs. H. Westron and H. J. Holden (Exeter).

Letters regretting inability to attend were received from Messrs. H. Mummery, Canton, Hern, Paterson, McAdam, Rogers, Graham, White, Fernald and Peake.

Mr. J. T. BROWNE-MASON presented his report as Treasurer, showing income £28 17s., and payment £20 8s. 9d.

Mr. T. ARTHUR GOARD read his report as Secretary as follows :—

The Council submit with much pleasure their report for the past year at the annual meeting of members.

Last year the meeting was held at Bristol, where there was a large muster of members who were most hospitably entertained by the President-elect (Mr. T. Taylor-Genge).

After a brief valedictory speech from the retiring President (Mr. J. J. H. Sanders), the incoming President gave an interesting address dealing with many matters of vital concern for dental practitioners.

Mr. OLIVER read a paper on "Our Plan of Campaign," which led to a lengthy and animated discussion. A resolution to the Representative Board was passed.

Dr. HAYMAN read a paper on "Immediate Root Filling."

Demonstrations were given by Messrs. GENGE, THOMSON, and GOODMAN.

In October an ordinary meeting of the Council was held at Minehead, at which the usual business was transacted. A case of infringement of the Dentists Act was carefully considered.

In May the spring meeting was held at Ross-on-Wye. A letter from the Representative Board was read.

During the past year three have resigned; the number now on the list is eighty-five.

The HON. TREASURER reports he has in hand a balance of £8 8s. 3d.

The five retiring members of the Council are—Messrs. R. Rogers, E. Goodman, W. G. Morris, A. H. Mountford, and W. H. Nicholls. The Council nominate Messrs. Rogers, E. Goodman, J. C. Oliver, H. P. Fernald, and T. Gill Williams for election; and Mr. Apperley, who retires as Vice-President, to the vacancy caused by Mr. Henry Mason becoming President.

The Council nominate Mr. J. T. Browne-Mason for re-election as Hon. Treasurer for the next three years.

The Council also nominate Mr. E. Apperley as the Representative of the Branch on the Representative Board of the Association.

The Council propose that the British Dental Association be invited to visit the Western Branch in 1898, and that Mr. W. A. Hunt be suggested as the President, and Bath the place of the Annual Meeting.

The reports of the Treasurer and Secretary were adopted.

The Secretary read a letter from Mr. J. C. Oliver, in which he withdrew his motion *re* the Dentists Act, in view of the statement contained in the Journal that the Association contemplate drafting an Amendment to the Act.

The Secretary read the following from the Representative Board :—

DEAR MR. GOARD,—I am directed by the Representative Board to forward you the following resolution on the matter submitted by the Western Counties Branch to the notice of the Board in August last. "That as the case provides that prosecutions may be undertaken by private individuals, the Representative Board cannot go beyond its functions in urging either private individuals or local associations to act as prosecutors. The Representative Board, however, is anxious to impress upon all members of the British Dental Association that the President of the Representative Board and the Hon. Secretary of the Association are always ready to give every information on any case brought before them, such as the advice of the legal advisers of the Association may direct." You are doubtless aware that the resolution of the branch was presented by the Board to the Annual General Meeting held in London, and was by that Meeting referred back to the Board.

Yours truly,
W. B. PATERSON,
Dec. 16, 1896. *Hon. Sec.*

Mr. HARDING moved a vote of thanks to the Mayor of Exeter and to the Museum Committee for the loan of the Art Gallery to the Association. He said the city of Exeter was to be congratulated on having such buildings. Very few provincial towns of this size had pictures and objects such as could be seen in that museum.

Mr. SANDERS said he had great pleasure in seconding the resolution, and he quite endorsed the remarks of Mr. Harding.

The vote was carried.

Mr. HARDING said that before proceeding further he thought that they ought to give a vote of thanks to their excellent Treasurer, who had served them for many years, and also to their Secretary. They had re-appointed Mr. Browne-Mason as Treasurer. His gratitude was defined by a lively sense of favours to come.

Mr. DUDLEY, in seconding the vote, said he had great pleasure in asking Mr. J. T. Browne-Mason to accept a pair of silver bowls from the Western Counties Branch, first as a very small acknowledgment of the long and faithful services he had rendered the branch as Treasurer, and secondly as a means of conveying to him their hearty congratulations upon his silver wedding. They all knew what a tower of strength Mr. Browne-Mason was to the dental profession, and no one was more aware of his professional and social qualities than they were in the west. Some time ago it came to his notice that Mr. Browne-Mason was to celebrate his silver wedding this year, and the members resolved to present him with some substantial mark of their congratulations. He asked him to accept these bowls with the good wishes of the subscribers. He had also to ask Mr. Goard to accept from the Western Counties Branch a silver salver. It was felt that the most important event of the marriage of the Secretary could not be allowed to pass without the opportunity being taken of expressing their personal esteem for him. He was sure he was echoing the sentiments of all present in wishing Mr. Goard a long life and every happiness. He trusted that twenty-five years hence they might still find him Secretary, and he hoped then he might have the pleasure of presenting to him a gift such as they had offered to Mr. Browne-Mason.

Mr. BROWNE-MASON, who was greeted with prolonged applause, remarked that to say his breath had been taken away would very inadequately express his feelings at that moment. He had not a suspicion that anything of the kind would be given to him. He did not think if he had known it that he should have had the brass to face them. He thanked them very heartily for the noble present they had given him and his wife. He did not feel that he had in any way earned it, but he was very grateful for their kind thoughts of him. He was sure that their present would be an heirloom to be handed down to his children and to be appreciated by them, as he assured them it was appreciated by himself. He knew also that his wife would appreciate it as much as he did. Whenever she had a chance she had always been ready to help him with the duties which he had to perform for the British Dental Association. He was grateful to them for their renewal of confidence in him as Treasurer, and he hoped that he might yet serve them for a long while. He had said that he thought some new blood should be put into the Treasurer's office, but he could not say so after this—because their kindness to him that day was an incentive to further exertions.

Mr. T. ARTHUR GOARD in thanking the members, said that unfortunately for him but perhaps, fortunately for them, there had been no time nor opportunity of preparing anything like a speech. He thanked them, however, very sincerely for their kind present and assured them it would find a treasured niche in the new home.

The PRESIDENT said it had been customary for those retiring from the chair to make a few valedictory remarks. It would give him very considerable pleasure to introduce Mr. Henry Mason as his successor. He was sure that it would be the opinion of all of them that he was exceptionally well fitted to be the President of the Association. He (the President) thanked them for their courtesy and kindness during his tenure of this high office, and he also thanked the Council and officers for their assistance. He assured them that his desire to promote the interest of the Association would ever deepen and increase.

Mr. Genge then vacated the chair, which was taken by Mr. Henry Mason amid cheers.

Mr. LAWS in proposing a vote of thanks to the retiring President said that perhaps one of the pleasantest duties of their Annual Meeting was to thank their past officers. He had been asked to propose a very hearty vote of thanks to their late President, Mr. Genge, for the very able, efficient and assiduous manner in which he had performed his duties. The President entertained them most hospitably at Clifton last year, which none of them were likely to forget, and he was most assiduous in every thing he undertook, forwarding the Association and its prospects wherever possible. He had performed the duties of the office with credit to himself and honour to his profession.

Mr. DUDLEY seconded the vote, which was carried.

The PRESIDENT said the meetings had been pleasant, and he had enjoyed the office very much.

Mr. HENRY MASON then delivered his address. He said :—

First of all, let me thank you for the honour you have conferred on me by electing me as your President, may I assure you that I will do my best to carry out the not very onerous duties of the office to your satisfaction, relying, as I know I can, on the assistance and support of our permanent officers, and on your own indulgence for any deficiencies of mine.

In the next place, let me offer you a very cordial welcome to our ancient city. The British Dental Association, and especially its Western Branch, is no stranger to Exeter ; its first meeting as the Western Counties Dental Association was held here in August, 1879, under the presidency of the late Mr. Spence Bate, F.R.S., of Plymouth ; and here let me mention, and as west countrymen we are I think entitled to be proud of it, that this was, I believe, the first meeting of a provincial dental society held in this country, and although we are not accounted the senior branch of the Association, yet in point of age as representing the Western Counties Dental Association, we are as old if not older than the Association itself, which did not hold its first properly organised meeting till July, 1880. It was not till a year later, in July, 1881, at the meeting held at Bristol, that our local Society decided to join the central body as its Western Branch. Since then we have held meetings in 1886 of the Branch, and again in 1890 of the whole Association, with our Hon. Treasurer, Mr. Browne-Mason, in the chair on both occasions. I can only hope that the present meeting may be not less successful than its predecessors.

And now to turn to the more immediate subject of my address, and in passing let me say that one of the greatest difficulties the President of such an Association as this has to contend with is the selection of a suitable topic on which to found an address ; it seems hopeless to look for anything novel, almost every aspect of every subject has been dealt with again and again ; there is, however, one subject of surpassing interest to dentists which, although it has been investigated and discussed *usque ad nauseam*, still awaits an explanation which shall satisfactorily account for all the phenomena observed, and that is the cause of the almost universal prevalence of decay of the teeth. It is to this, or rather to a single point connected with it, that I propose to ask your attention. There seems at the present time to be a concensus of opinion that the causes of dental caries are largely if not entirely external ; how otherwise are we to explain the remarkable changes so frequently seen in the condition of the teeth of the same patients ? I am sure there is no dentist of any experience but must have seen mouths and not a few of them in which caries was threatening or attacking nearly all the teeth, and has probably, at any rate to himself, prophesied their speedy loss, and yet in the course of two or three years or even less, a most wonderful change has come over the scene ; the teeth which seemed so soft and chalky have apparently become hard and dense, and the decay which threatened their wholesale destruction has quite ceased. This surely points to some powerful external influence, since our authorities forbid us even to hint at the possibility of any changes in the teeth themselves.

Recent researches of Mr. Charles Tomes, F.R.S., in this country, and of Dr. Black in America seem also to suggest that the causes of decay must be sought less in the quality of the teeth themselves than in the conditions to which they are exposed in the mouth—careful analysis having shown that there is not that deficiency of lime salts in modern teeth which so many writers have taken for granted, apparently without investigation, and quite overlooking the difficulty that no similar deficiency is discoverable in the composition of the other bony tissues in the great majority of those individuals, the state of whose teeth leaves so much to be desired.

I propose, then, to consider the effect of diet on the teeth—certainly one of the external causes of which I have been speaking—and one also which, although it has not been entirely neglected, has still not received the attention which I think it demands.

Professor Miller, of Berlin, in his very able and interesting work on the " Micro-organisms of the Human Mouth," gives what is probably the most complete and satisfactory explanation of the immediate cause of dental decay which has yet been published, recognising, as all authorities are now practically agreed on, that in its initial stage it is simply a process of decalcification of the teeth by means of a free acid. He goes a step further and endeavours to trace the origin of the acid; and to this I wish particularly to direct your attention. He first indicates the well-known action of the saliva, or, rather, of the ptyalin contained in it, by means of which the various carbo-hydrates taken into the mouth as food are converted into sugar. He then shows how, by the subsequent action on these sugars of a ferment produced by different bacteria, which are constantly present in the mouth, lactic acid is freely formed. Now, this acid has a great affinity for the lime salts, even weak solutions affecting the teeth powerfully; and such substances, when first liberated, are, as is well known, much more active in entering into fresh combination than is otherwise the case; and thus its destructive action on the teeth is readily and satisfactorily explained. If, therefore, Professor Miller is correct in thus identifying lactic acid as the active cause in the production of decay, and in his explanation of its source, it follows that we must look for the pretty constant presence about the teeth of the carbo-hydrates, and as these include many of our commonest foods, comprising all the saccharine and amylaceous articles of diet, they necessarily find their way in considerable quantity into the mouths of all of us. Indeed, the probability is that our modern food contains a far larger quantity than is either necessary or beneficial. Accepting these statements, then we are, I think, quite justified in concluding that diet does play a not unimportant part in the production of dental caries, and assuming them to be correct we should expect to find that those races of mankind which make the least use of the carbo-hydrates as food will possess the best teeth, or, rather, suffer least from dental decay; and there seems to be no doubt at all that this is the case. It will, I fear, be but cold comfort to our vegetarian friends, and it would be interesting to hear their own experience. But the races most free from caries are those which live almost exclusively on flesh. According to a table compiled by Dr. Miller, the Chinese, whose diet is chiefly vegetable, have the largest proportion of cases—more than 40 per cent. of those examined—whilst the purely flesh-feeding Esquimaux have less than 3 per cent. In confirmation of this I may add the statement of a medical man with whom I am acquainted, who spent some time in British Columbia. He tells me that the native Indians in that country before they experienced the full blessings of civilisation, subsisted almost if not exclusively on raw salmon cut into slices and dried in the sun, and that caries was there practically unknown amongst them. In recent years, however, since they have added to their diet many of the luxuries consumed by their more civilised brethren, such as sugar and the various delicacies compounded from American flour, decayed teeth have become very prevalent.

I should like also to mention a very curious and interesting case occurring in my own practice, and which seems to have a very direct bearing on the subject, indeed it was the consideration of this case which first specially directed my attention to the matter. I have amongst my patients two ladies—sisters—whose teeth have been under my care for a considerable period. One of them has for some years past been quite unable, owing to the state of her digestion, to eat ordinary food ; she lives largely on meat—lamb and mutton, varied occasionally by game, with a very small quantity of bread and butter or toast. Vegetables she entirely avoids, nor can she take sweets of any kind, or even the various milk puddings prepared with the different starchy foods which are generally so acceptable to invalids. During the whole of this time the teeth have remained practically free from decay, though previously she suffered much ; and not only so but a large osteo stopping in an interstitial cavity in an upper bicuspid has remained quite unchanged since it was inserted in March, 1890. On the other hand, her sister, who is about the same age, and lives an exactly similar life except in the matter of diet, which in her case includes all the usual articles of food, is never absent from the dentist for more than six months, and decay in her teeth is constant and progressive.

Closely connected in all probability with the same subject is the great increase of dental disease amongst the working classes, and it is especially remarkable that this should be coincident with a corresponding increase in their material well-being ; the cheapness of many articles of food which were at one time luxuries only within the reach of the wealthier classes, and the great improvement in their wages in recent years, enabling them to live in a very different way from their forefathers.

Again, any dentist who has been long in practice must have been struck by the increase in the amount of decay in the teeth of children. Speaking personally after twenty-one years of active practice I have no hesitation in saying that the change observable is astonishing, it is now a very rare thing to see a perfect set of milk teeth and what the general condition is I need not describe to such an audience as this. I cannot but think that it is a much more serious matter than is generally realised ; putting on one side the suffering it entails, it must have a very bad effect on the digestion, and, therefore, on the general health. Here, too, the suggestion seems obvious that improper feeding may be very largely to blame, certainly if, as observations seem to show, there is an almost direct relation between the simplicity of the diet and the goodness of the teeth, for no one could speak of the diet of present-day children as simple.

No address on this subject would be complete which omitted to note the researches of a distinguished member of our profession, the late Mr. J. R. Mummery. This gentleman devoted many years to an investigation into the relation between food and caries in the different races of mankind, and in an interesting and instructive paper read before the Odontological Society in 1869, he embodied the results of a very painstaking inquiry including both ancient and modern races. This paper contains, as far as I know, the most complete inquiry into the subject yet published, and is, I believe, the authority on which most subsequent writers depend. It is well worth the attention of all interested in the matter, and no one reading it with care can, I think, fail to be struck with the fact that the balance of evidence which he adduces goes a long way in support of the ideas I have been endeavouring to bring before your notice. Whilst his researches show conclusively that the flesh-eating races, both ancient and modern, have invariably possessed the best teeth, it is not a little remarkable that amongst the races whose diet is more largely of a vegetable nature, those possess the best teeth which make the least use of the carbohydrate as food. It is interesting also to note that decay of the teeth is by no means altogether a matter of civilisation, caries in a greater or less degree having been noticed in every race which has been under observation.

Now I cannot but think that all this does pretty clearly indicate that diet has a much larger share in the production of caries than it is usually credited with, and that further investigation may not improbably lead to some useful result. I do not of course mean to imply for a moment that it affords anything like an adequate explanation, but what I am especially concerned to notice is the apparent connection between the food we take and the production of the acid which we may almost certainly conclude is the prime factor in the causation of decay. Nor do I wish to be understood as recommending a flesh diet ; its disadvantages to a race enjoying our present high state of civilisation would most certainly out-weigh any possible benefit to the teeth, but I am distinctly of opinion that it ought to be a possibility in this age of discovery to devise a dietary resting on a scientific basis which would diminish, if it could not altogether avoid, the development of lactic acid in the mouth, and I feel sure if this could be done a long step would have been taken in reducing the amount of decay of the teeth, especially I think ought this to be possible in the case of children and young people generally ; or if this is not considered feasible, then as lactic acid fermentation does not seem to be at all a necessary part of the digestive process in the mouth, it would seem as if our efforts, instead of being directed as at present to the neutralisation of the acid after it has been formed, ought rather to have as their object the destruction of the bacteria whose ferment is the cause of its production.

I think we have here a wide field for experiment and observation. The whole question is one of almost infinite complexity, and there are many other points which might be noticed connected with the part played by the micro-organisms of the mouth, full of promise as they are of important discoveries in the near future; time, however, would not allow me to discuss them fully, and I think also it may be more useful to have dwelt on the single aspect of the subject I have presented to you.

I am afraid none of my remarks are very novel, and they are, I know, rather loosely thrown together, but unfortunately the busy life of the modern dentist leaves little leisure for anything like original work. I cannot but think, however, that we might most of us make more use than we do of the opportunities for observation which we undoubtedly possess, and it is with the hope of stimulating the activities of some of our younger and more energetic members in this direction, that I have chosen the subject of my address to you to-day.

Mr. W. HELYAR proposed a hearty vote of thanks to the President for his address.

Mr. E. GOODMAN seconded the vote, which was carried.

Mr. W. A. HUNT read a paper on "A Study of the Sympathetic in Relation to the Fifth Pair of Nerves, with Practical Deductions."

The President invited discussion.

Mr. APPERLEY said that oftentimes it was difficult to convince patients that the pain was not where they thought it existed. The reading of the paper had helped to refresh their minds upon an interesting subject.

Mr. KENDRICK thought they were very much indebted to Mr. Hunt, who had given them a very instructive paper and brought back to them what they had learnt years ago, but what they were apt to forget.

Mr. HARDING said he had been interested in the paper, which had refreshed his mind on the relation of the sympathetic to the other parts of the nervous system, and he thought every one of them could supplement Mr. Hunt's list of cases in which the action of the sympathetic affected other parts. One of the great difficulties they had to contend with was to convince patients they were right in their diagnosis. With intelligent patients this was not difficult, but with many patients of a certain turn of mind it was hard to persuade them that the pain they felt did not arise at the point to which they directed attention.

Dr. HAYMAN thought the view of dental surgeons upon this subject ought to be brought to bear upon the medical profession.

Mr. HUNT thanked the members for the kind way in which they had received his paper, and if it had been useful to them he was very glad to know it.

Mr. S. H. WALLIS read a paper on "A Rapid Cure of an Antral Abscess."

Mr. HARDING said his colleague had had a case within the last two months which was taken very promptly, and in ten days there was a complete cure. It appeared to him that the discharge must come principally from the mucous membrane lining the antral cavity, and if the discharge were chronic it was very much more difficult to cure. He should like to remark that he thought the important thing in the treatment of these cases was to get a sufficiently large opening in the antrum. They were generally afraid to make the opening into the antrum too large. He liked an opening as large as he could get a pencil into. They had then plenty of room to syringe through, and so irrigate the cavity. The tube which had been shown to them was very useful, but for his own part he very much preferred not to have a tube, for one or two reasons. First there was time and trouble to make it and adapt it, and the result, he thought, was inadequate to the trouble. It was a trouble to themselves and a discomfort to the patient. Secondly, he thought they were unable to use the tube on the floor level of the antrum, by which all the fluid could be drained. What he preferred was a plug made by a little vulcanite or gutta-percha, for preference vulcanite, which was easily formed and easily shaped.

Mr. GOODMAN said that in his short experience he had had the treatment of one or two cases. He thought he must agree with Mr. Harding that cases had been treated most successfully without any tube, but merely with a plug as he suggested, which he (the speaker) made in all cases with vulcanite. He remembered one case going on for nine months, syringing every day, but eventually it was cured. He did not think he ever heard of a bad case being cured in a month.

Mr. THOMSON said he agreed entirely with Mr. Harding with regard to the use of tubes. He thought it was quite an unnecessary trouble, and all his success he had gained lately without the use of tubes. The syringe he preferred was one that Ash sold with the bulb some distance from the tube.

Mr. WALLIS said of course he used an ordinary syringe. He did not want any branch to go through his tube. He could remove it without that. The tube was merely put there to keep the wound open for the time.

Mr. W. E. HARDING said at the last meeting of the Midland Branch Mr. Alfred Cocker, of Sowerby Bridge, showed an atomiser for spraying the mouth before taking an impression to prevent retching. On his (the speaker's) return home he got the instrument and found it of very great value in preventing retching both while taking the impression and also when first wearing an artificial piece. Mr. Cocker used eucalyptus alone. He (the speaker) preferred a compound of paroline, 16 pts.; eucalyptus, $\frac{1}{2}$ pt.: menthol, 1 pt.; pinol, 1 pt.; cocaine, 1 p.c. The sensation of warmth and cleanliness was really quite pleasant to the throat and mouth. He also wished to bring to their notice the use of Dr. Miller's antiseptic formulæ, which he had found very efficacious in preventing decomposition in the pulp chamber of teeth, when from the position of the cavity the pulps could not be thoroughly removed. The constituents were—hydrarg. perchlor. and thymol of each $\frac{1}{16}$ gr., made into a pill mass with manna and glycerine.

Mr. J. T. Browne-Mason said the atomiser seemed to supply a want that was felt; as to the new formulæ, would not the ordinary cocaine preparation answer the same purpose?

Mr. Harding replied that he had not tried a solution of cocaine pure and simple, but his objection to cocaine was that it had a sort of numbing effect on the palate, but did not remove the feeling of sensation.

Mr. T. Arthur Goard read a paper on a "Case of a Suppurating Dentigerous Cyst."

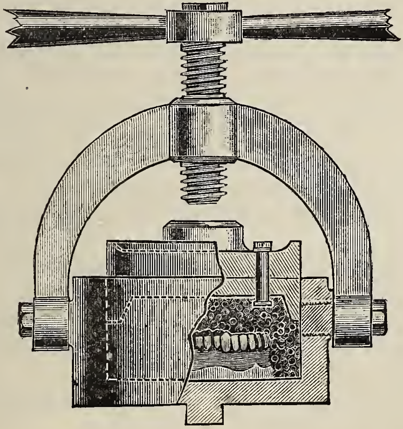
The President thanked the members who had read papers and given demonstrations. Personally he thanked them all for their very great kindness and their support that day.

The members lunched at the Rougemont Hotel at two o'clock, at the invitation of the President. At the close the health of the President was cordially toasted.

Demonstrations took place at the Dental Hospital in Castle Street, in the afternoon.

Demonstrations at the Dental Hospital, Exeter.

Mr. Gartrell demonstrated his new Continuous Gum Gas Furnace illustrated in this number. He fired the first coat of body on a full upper set. The set was placed on the nickel slide and inserted in the muffle. The burner was lit to work as a Bunsen for about seven minutes, then the bellows was used and the set fired in three and a-half minutes. An ordinary gold cylinder as used for filling being placed



beside the work and the blowing stopped when this melted. The set was allowed to cool in the muffle about fifteen minutes, and was then removed and tried on a thin metal model. It was found to rock, caused by the shrinkage of the body. The model with set on it was then placed in the shot swager as shown in the illustration and a powerful screw pressure put on. On removal the set was found to fit perfectly, and to the surprise of those looking on, nothing was injured or cracked. Mr. Gartrell is of the opinion that quick firing in from six to ten minutes produces better results, and avoids crazing the gum enamel, and claims that with this furnace, shot swager and his improved processes a new departure is made in continuous gum work. A crown was afterwards baked in the same furnace in three minutes.

Mr. J. J. H. SANDERS, L.D.S.I., showed "An automatic Water-Heater."

Mr. W. H. GOODMAN also illustrated the many uses of "Platinum and Porcelain Crowns."

The annual dinner was held at seven o'clock at the Rougemont Hotel. The President (Mr. Henry B. Mason) was supported by (in addition to the members of the Association) the Right Worshipful the Mayor of Exeter (Mr. R. Pople); the Sheriff of Exeter (Mr. T. Wilson) ; Mr. H. Yeo, Mr. H. Campion, (members of the Exeter Corporation) ; Mr. G. R. Shorto (Town Clerk); Mr. John Mortimer and Mr. Russell Coombe (Anæsthetists to the Dental Hospital) ; Mr. J. Dallas (Curator Albert Memorial Museum) ; and others.

At the conclusion of dinner the toasts included that of "the Queen," "The Army, Navy and Reserve Forces," "The City and County of Exeter."

Mr. H. CAMPION, C.C., proposed "The British Dental Association."

Mr. J. T. BROWNE-MASON responded ; Mr. APPERLEY also replied.

Mr. J. H. GARTRELL proposed "The Devon and Exeter Dental Hospital."

Mr. ACKLAND (Hon. Treas.), and Mr. H. YEO (Hon. Secretary of the Dental Hospital) acknowledged the toast.

Mr. RUSSELL COOMBE submitted "The Odontological Society of Great Britain."

Mr. W. E. HARDING, the President, responded on behalf of the Odontological Society.

Mr. LAWS proposed "The Visitors," and Mr. MORTIMER replied.

"The President," was the concluding toast, proposed in a felicitous speech by Mr. W. A. HUNT.

On Saturday, July 24, a Coach Excursion to various parts of the Dartmoor, was much enjoyed by the members.

Original Communication.

Dental Prosthesis of Edentulous Jaws.*

By ALFRED COCKER, L.D.S.I.

One of the most common and repulsive deformities of the people of the present day, is the loss of the natural teeth, and I fear the time is yet far distant when the public will become educated to the necessity of availing themselves of the opportunities afforded them for preserving these organs. Compulsory attention to the teeth of school children is discussed as an initial remedy, but its adoption is as yet a very remote possibility. The only practical course for remedying such a condition must proceed on the lines of education. The untold quackery that is tolerated at the present day, is one of the greatest curses to civilisation, and is largely responsible for the toothless mouths that meet us on every hand. It is deplorable to think of the large numbers of men, women and children, whose mouths are wrecked by such unscrupulous persons.

Conservative dentistry has largely occupied the attention of the profession of late years, and the advancement made has been great, and it seems quite possible that if parents realised their duties, and took their children periodically to a dentist, artificial teeth would rarely be required in the next generation. Without that care and attention the loss of the teeth in most cases is inevitable.

Food, preparatory to undergoing the process of digestion, requires to be thoroughly masticated, and insalivated, and if there are no teeth, perfect assimilation cannot possibly take place, the various structures cannot appropriate to themselves the nourishment they require, and consequently the body must become impoverished. We are concerned in restoring these lost organs and the facial expression, and a discussion on the various methods adopted for accomplishing these objects in the cases of edentulous jaws, should prove both interesting and instructive.

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* A paper read at the Annual Meeting of the Midland Counties Branch, Rochdale, May, 1897.

Assuming, then, that the mouth is in a thoroughly fit condition for the insertion of artificial teeth, the first step is to take an impression. In this work there is probably no operation in dentistry in which we are less successful. The endless variety of conditions with which we meet often make it difficult to get anything like a faultless impression ; edentulous jaws probably present the greatest difficulties. In cases where entire upper dentures are required, and the lower natural teeth have not been lost, every care should be taken to secure as good an impression of the lower teeth as of the upper jaw, otherwise the articulation of the teeth when finished may be faulty. This is equally necessary should a full lower set be required to articulate with an upper.

In this country, I believe, composition is more largely used for the impression taking than any other substance. Whilst it is a most useful and indispensable material, I cannot too strongly condemn its employment in obtaining finished impressions of edentulous jaws. I would extend that condemnation to bees-wax and gutta-percha. Plaster of Paris is, without a doubt, the most reliable material that can be used for this object. This, I think, is acknowledged on all hands, but it is often discarded for no other reason than that it is not so convenient or cleanly as composition or wax, and is more troublesome to manipulate. Plaster of Paris in a semi-liquid condition is perfectly adaptable to all surfaces, no matter how irregular they may be, and *with* me it is an axiom that "the greater the difficulties to be overcome, the greater the suitability of plaster for the work." It is, in fact, the only material we possess which will give positive assurance of accuracy. For this important work a well-equipped laboratory should be provided with a large assortment of trays. Those sold at the depots are often stronger than I like for the method I adopt. For full upper impressions I should select a thin britannia metal tray, and one sufficiently large and deep to thoroughly cover the whole of the parts to be modelled. A rough impression in composition is first taken, and a plaster model quickly obtained ; the impression tray is then annealed over a Bunsen flame, care being taken to avoid melting it ; with a cloth the tray is quickly and forcibly pressed into shape on the plaster model, especially along the back edge, making the tray conform accurately to the palatal border and tuberosities, in order to dispense with the necessity of putting at these points a strip of wax or composition. This is the only part of the tray that requires to be accurately fitted, and it will serve effectually to dam in the plaster. It is often better that a good space should intervene between the remainder of the palatal portion of the tray and the palate, for reasons which I will give later on. The outer border of the trap should be bent so as to provide an even space between it and the gum of $\frac{3}{16}$ of an inch. This tray, when finished, should not only be larger, but also greater in depth all round than the future denture. If care is not taken to have this space, especially in the neighbourhood of undercuts, there is a danger of the plaster breaking up into such small fragments as sometimes to make it impossible to accurately replace them. On the other hand, should the impression tray be too large the soft parts will be distorted, and the plaster will not readily flow into position, a faulty impression being the result. I find an ordinary dessert spoon the most convenient instrument with which to mix the plaster. Have ready an atomiser, a napkin, plaster, tumbler, salted water, and an ordinary dessert spoon.

I have lately adopted the use of one of Burroughs, Wellcome & Co.'s atomisers for spraying the mouth before taking an impression of it. I find that patients who have previously undergone this operation greatly appreciate its employment. The medicament I use is eucalyptus, and so far it has answered its purpose splendidly. The atomiser is a neat, compact little apparatus, and produces a perfect spray. The proper way to use it is to ask the patient to take a breath, and whilst doing so, spray the mouth. By this method the eucalyptus gets well distributed and there is consequently less risk of the patient retching whilst the impression is being taken. In addition, should the breath of the patient be in the least offensive, the eucalyptus will do much to counteract it, and thus make the work more agreeable to the operator.

Place a napkin over the patient's dress, in order to catch any excess of plaster that may fall out of the mouth; put in the tumbler sufficient salted water, coloured with any aniline dye, to mix the required quantity of plaster. Take a spoonful of this, sprinkle it in the water by tapping the spoon on the side of the tumbler, so as to disengage all the air before it sinks; pour off the excess of water and stir vigorously; have ready placed on the bench a thin felting of cotton wool, and immediately flow some of the liquid plaster over it, thoroughly incorporating it into the wool with the spoon, and with the same instrument place it in position in the centre of the palate, making sure that all air is driven out by patting it into place with the index finger. This, I find, is the cleanest and best method of getting the plaster well into the palate in its most liquid state, thereby obtaining a sharper impression and without air spaces. It is exceptionably serviceable where the palate is deep, only be careful not to make the plastered felting so large that the tray will be likely to bear upon it, and cause it to press unduly on the palate. Quickly pour the plaster into the tray and stroke it off to a fine edge on the palatal border. When you have got the tray well inside the mouth, before putting it into position, ask the patient to open the mouth fairly wide; notice exactly where to place the back edge of the tray, and after putting it there pretty firmly, raise the lip with the left hand and watch that the tray comes to the required distance in front of the gum, and with the first finger in the centre of the tray, carefully and lightly press it home. Hold it there till the plaster is sufficiently hard to break with a clean fracture, then raise the lip and cheek on the sides and in front, and draw slightly forward, allowing air to pass in over the rim of the cup. This will usually allow it to be readily removed.

In obtaining a model of an edentulous lower jaw, it is also better to take an impression first with composition; get out the model, and adapt a tray to the particular case by the method suggested for full uppers. Here again cotton wool serves a very useful purpose, especially when the ridge has largely disappeared. In a very shallow case the tray would be filled flush with its margins, and a long strand of cotton wool saturated with plaster placed along the top of it, then a little more plaster placed on the top of that. By this method not only can the plaster be used much thinner, but it is also prevented by the cotton wool from flooding into the mouth. The tray being ready, it is now placed in position, and pressed down until the ridge is wholly imbedded. The patient should now be requested to protrude the tongue as far forward as possible, so as to force the plaster well over the lingual side of the alveolar ridge. It will also give an impression of the mylohyoid muscle and the fraenum of the tongue whilst they are stretched and elevated. There will then be less fear of trouble in that part when the teeth are completed, as the muscle and the tongue will not be likely to become abraded with constant use in speech and mastication.

The use of cotton wool is an invaluable help in taking plaster impressions, and serves to help me out of many diffisulties, especially where there are deep undercuts, and where the palate is deep and narrow. In a case I had the other day a badly fitting upper plate had flattened the anterior portion of the ridge, and forced it so far forward as to make a short depression a quarter of an inch deep on either side of the fraenum, and of which I failed to get an impression in the ordinary way. I was helped out of the difficulty by the use of plastered cotton wool, and succeeded in getting a most perfect impression on the first attempt.

Being perfectly satisfied that suitable impressions have been obtained, take a piece of heald-maker's wire similar to that most commonly used for bent iron work, and bend it into a convenient shape for obtaining a first bite. Fix on this frame a sufficient thickness of softened composition, to represent as near as possible, a little more than the length and the fulness of the teeth to be inserted, place it in position in the mouth, and say to the patient, "steadily," "close," and immediately the correct distance is reached, "stop." Take the composition out of the mouth and place it in cold water to harden. Try the composition again, this time trimming or building it up until the proper contour of the face is obtained, and whilst it is in the mouth, mark a horizontal line between the lips when at rest. This will indicate approximately the dividing line of the upper and lower teeth.

The next step is to obtain a perfect representation of the parts from the plaster impressions, which should first be coated with ethereal soap. This will then give to them a smooth surface, and will so prepare them that the models can readily be separated. Immediately the impressions are dry, dip them into water to moisten the surface, blow out any excess, and pour in the plaster. When this is thoroughly set, get out the models and mount them on a plain line articulator to the first bite; mark off the distance of the dividing line shown on the bite, and record it on the top model as a guide for the temporary mounting of the teeth in their correct relation to the lip line. The teeth are next roughly mounted in wax to more than the proper contour, and the bite plates arranged. For this purpose, I prefer composition to any other substance. Wax is too slippery, and of too weak a character. The bite plates should be high enough to allow the patient distance to bite down. Take both pieces, moisten the under surfaces with water, and dust them over with gum tragacanth. This will enable the patient to keep the plates in position and inspire confidence, which is at this stage a most important consideration, as anything which moves about in the mouth tends to cause the patient to give an incorrect bite.

Put the lower bite plate in the mouth, soften the occluding surface of the upper plate, place it in position and say emphatically "bite through it." Another method is to ask the patient to swallow and close at the same time. I do not favour the latter plan for complete sets as the lower is liable to be displaced through the tongue moving forward in the act of swallowing with such force that it sometimes requires considerable strength to hold it down. "Bite through it" answers splendidly in my practice, so much so that I have never ground a set of teeth after being finished in order to fit them accurately in the mouth. By this method the tongue recedes, and contracts, and barely touches the lower plate at any point. Instructions to patients how to bite are fruitless and are almost always sure to result in failures. Remove the bite plates from the mouth and place them in cold water to harden, then try them in again, this time noticing that neither the one nor the other moves out of place. This is best accomplished by cutting a nick opposite the median line of both bite plates, so that the tips of both ridges can be seen. By asking the patient to open and shut, these points readily disclose any movement which would be likely to impair a correct articulation. Before removing the plates from the mouth, and whilst they are clenched together, ask the patient to notice if both sides bite equally tight, and keep exactly in place, saying, "If they don't do this the teeth will never fit." When fully assured that the bite is as accurate as possible the models may then be remounted to the true bite, and the teeth selected and adapted before the patient is dismissed.

The subject of "Dental Prosthesis," so far as it relates to the correlative selection of teeth, I do not find has ever occupied the attention of the Midland Branch at any of its meetings. If there is one subject more than another which concerns the success of a dentist, it is "the correlative selection, and perfect adaptation of artificial teeth," and it is high time an effort was made to replenish our minds on this important matter. The greatest natural genius cannot subsist on its own stock, without constant repetition being the result, and this is surely one branch of our art which is of such magnitude, as to be deserving of a fuller consideration than it has hitherto received. I would here suggest that if our meetings were organised more on a sectional system a subject of such importance would receive the thought and attention due to it. It is the one subject above all others which the writers of text books in this country have overlooked, notwithstanding the fact that there is no other service in dentistry so badly rendered as the æsthetic construction and adaptation of full dentures. It is not difficult to so distort the expression of a person as to produce an appearance of idiocy. On the other hand, when an intelligent discrimination of teeth is made, and they are well adapted, a pleasing restoration may be obtained.

Especially in American text books do we find the subject treated from a temperamental standpoint, but mostly corroborative of one authority. I have no desire so much to question that authority as to offer suggestions which may be of practical help.

Environment, mode of living, climate, character of race, and occupation all play an important part in branding individuals with the physiological and other characteristics peculiar to them. Each being differs from every other being of its species, there is no man perfectly similar to another man, and no tooth perfectly similar to another tooth. The different characters of the teeth must be as numerous as the individuals of the human race. There are no two persons whose physical organisations are precisely the same. But we are told by those who corroborate the temperamental theory "that the basal fact on which we should proceed in the selection of teeth is temperament," and that a failure to recognise its demands, will result in failure from an æsthetic standpoint. Assuming that temperament in its general expression as a rule determines the character of the teeth, the converse of this must also be true, viz., "that the character of the teeth must determine the character of the temperament." This theory largely obtains where the conditions of life are widely different, and its wider applicability may therefore constitute it a basal fact on which in given cases it may be possible to proceed. I have carefully collected a number of photographs of persons whose teeth are for all practical purposes as perfectly identical in every detail as is possible, except in size, but I fail entirely to recognise in any two of them, a corresponding likeness of temperament. I can conceive no better method than this of putting the present system of classification to the test. I should no more think of disputing the temperamental theory than I should a special breed of horses, or dogs, but I do largely discount the importance attached to it. The classification of teeth on the lines of temperament is undoubtedly a noble attempt to reduce, as far as possible, the selection of teeth to rule, without detracting from the æsthetic character of our work. The greater the advance in the art the more its powers become fixed to rule.

We need, however, be under no apprehension that the selection and adaptation of teeth will be reduced to narrow comprehension, and a purely mechanical performance, which it certainly would were temperament an unerring guide. The present system of classification is in no way helpful to me, and affords me no guide.

It is not easy either to define clearly the intelligent discrimination required in the selection of teeth or to describe by words the proper means of acquiring it.

The study of human anatomy, especially that branch which concerns the mouth, the teeth, and the adjacent parts, is fruitful of instruction, as the leading line in training the eye in the anatomical selection and construction of artificial teeth. The application of that study will assist one to restore more nearly the facial expression. It is especially desirable that we should observe the characteristic form and pitch of natural teeth in their varied aspects, and it is essential that every minuteness of detail should be regarded. The grand ideal of our art in the making of artificial substitutes is that they should be accurate imitations of nature, almost appearing to be what they are not. In order to accomplish this we must collect a stock of ideas by studying the infinite forms of nature which are to be combined and varied as occasion may require.

Whatever powers we possess a constant observation of these forms is required in order to cultivate and enrich them if we are to produce work of truly artistic merit.

The relative size of the front teeth in each jaw is determined by the fact that the upper canines must cover about half those of the lower and nearly half the first bicuspids, so that in cases where either a full upper or lower set of teeth is required the natural teeth in the opposite jaw are the best guides we have in making a selection. To faithfully accomplish the remainder we have the unlimited forms of nature to assist us, and from this field alone can we conceive the correlative character of the teeth best fitted for the requirements of a given case.

When the teeth are selected we next proceed to mount them on the models. If they are only required for one jaw, those with which they have to be antagonised generally serve as a good guide, both as to their character and regularity.

In the mounting of complete sets, I have for years practised the system of setting the lower teeth first, and am persuaded it is a better method by far than the opposite course, and for several reasons. The lower denture generally requires less force to displace it than the upper; it is consequently necessary that the teeth should be set directly over the ridge or inside it according to the amount of absorption that has taken place. This can not be as readily accomplished by setting the lower teeth to the upper, as by mounting them in the reverse order.

If the lingual side of the ridge be mounted with wax, it is easy to place the teeth exactly in their best relationship as regards resistance. This method, further enables one to see at a glance where it is necessary to build out either set for the purpose of restoring expression, whereas, if the upper be mounted first, this point is not so noticeable.

In cases where there is a lateral displacement of the lower jaw without protrusion, a compromise course of mounting the teeth is generally adopted. I do not approve of this method, and only follow it in extreme cases, so far as to be able to balance the teeth. The tongue being situated in the floor of the mouth, in the space bounded by the inferior teeth and mandible, any lessening or distortion of the tongue will tend to cause displacement of the denture so that this space should, as far as possible, not be encroached upon. Another important consideration is, that the lower teeth should not be mounted outside the line of resistance. The first and foremost point in mounting complete sets, must be with a view to their utility, making every other object subservient to it. Our art often demands more than restoration. We are sometimes required to correct malformation in relation to the mouth, but this should only be carried out so far as in no way to impair utility.

In order to pitch the teeth so as to obtain a pleasing effect, it is well to have in mind studies of irregularities to be applied whenever a suitable opportunity presents itself, so that the artificial character of our work may not be too apparent. The more common ones I would venture to classify. We have first the "crowded or overlapping" irregularity of contracted arches, where one central overlaps the other, and the laterals overlap the centrals. This is the one most often adopted, and when judiciously applied a natural and gratifying result may be obtained.

The next variety which is characteristic of flat faces, I would call "underlap." In this class the labial surfaces of the central incisors are either on the same plane, or form an obtuse angle with the apex towards the mouth, the laterals underlapping the distal border of the centrals and having their labial surfaces on a parallel plane with them.

Another irregularity not so common as the former two I would call "bunching." This arrangement is often the result of pathological conditions, and, when fearlessly adopted, is the most deceptive of the three. It is one I frequently practise in setting lower front teeth. Especially do we find such a condition accompanying accumulations of tartar in old age. The teeth, of course, diverge as from a common centre.

There are other irregularities which it would be possible to name, but from the three I have but briefly described, it will, by judicious selection and arrangement, be possible to make an endless variety of combinations.

One of the commonest faults in full upper dentures is the failure to correctly shape the lingual surface of the palate, so as to preserve or improve the natural tone of voice, and to assist in the manipulation of food. The ear, however, habituated to sound, enables one after a short time to largely recover any imperfections of tone which may have been caused by such a fault. Still, it makes one more difficulty against the success of the case, besides being a noticeable source of annoyance to commence with.

Perfect enunciation in speech depends very largely upon the three surfaces formed by the palate and the teeth. It is well to recognise the character of these surfaces—all three are arched from side to side—the first, which is formed by the lingual surfaces of the six front teeth, to concave, and diminishes laterally; and it is specially necessary for the correct enunciation of dental sounds. The second is formed by the lingual side of the alveolar ridge, and is convex; whilst the third is concave, and comprises the larger portion of the palate. Each of these surfaces is concerned in the modification of sound.

When the teeth are lost the alveolar border becomes absorbed, and articulate sound very indistinct: and, in fitting artificial teeth, our considerations of the requirements of the mouth must extend further than the restoration of the lost parts. The further the palatal arch is from the normal standard the less clear articulate sound and tone of voice becomes, so that if an arch is contracted and narrow, we should not neglect to correct it. Trouble is often experienced by patients in getting sibilant sounds. The correct enunciation of these can only be obtained where there is full control over the emission of air at the middle surface. In their production the tongue contracts laterally, completely shutting off the emission of air as far forward as the cuspid teeth, forming a sharp angular space running longitudinally along its anterior portion. When the surface is contracted and angular sibilant sounds are more difficult to make than when it is well rounded. The palatal surface, too, should present well-rounded curves in order that the resonant properties of the mouth may be as perfect as possible, and the tone of voice intensified. If these are wanting, it is necessary they should as far as possible be corrected in the artificial substitute. The rugæ, no doubt, are also concerned in the production of articulate sound, and their reproduction on the palatal surface of a dent~~ine~~ure may not only restore that feature but may also assist in properly controlling food during the process of mastication.

The method I have adopted for reproducing on a vulcanite plate the character of a normal palate, and the lingual surfaces of the teeth, is to have two or three suitable models, with a fair thickness of shellac made to fit each one of them accurately. Modelling composition answers the purpose almost as well. Take a piece of wax the required size and thickness, warm it over a Bunsen flame, dust the model with French chalk, and on it press the wax roughly into shape, cutting off all excess. Warm the wax again, and before placing it on the model dust them both once more and press the wax into position with the shellac. This will give an accurate reproduction of the parts. Cut out the palatal portion of the wax denture, and carefully work the impressioned wax into its place. By this method you will be enabled to produce the particular conformation of palate which is best suited for correct enunciation, and to assist in the manipulation of food in the mouth.

The treatment of the artificial gum is deserving of greater attention from an æsthetic standpoint than it receives. It ought as far as possible to be carved and shaped after the form of the natural gum, especially where there is the least chance of any portion of it being visible, and further wherever any restoration would be an improvement do not hesitate to make it.

In conclusion, gentlemen, I am convinced that if a more intelligent interest were taken in dental prosthesis we should have less reason to complain of the existence in our midst of so much of the chicanery which we find at the present day. Many in our profession are not raised above the ordinary mechanism of our calling, and if the reading of a paper on such a subject as this should fail to convey any new or novel idea, but should inspire some to take more than a mechanical interest in our art I shall be more than gratified.

Legal Intelligence.

Action for Malpraxis.

GARSIDE *v.* GOLDMAN AND ANOTHER.

Before Mr. JUSTICE CAVE and a Common Jury.

IN this case Mrs. Adelaide Garside, a married lady, residing at Malinson Road, Wandsworth, sued Mr. George Goldman and Mr. George Geary, carrying on business as dentists in Northcote Road, Clapham Junction, to recover damages for personal suffering alleged to have been caused by unskilful treatment which she had received at the hands of one of the defendants. Defendants denied that the plaintiff had suffered any injury or that she was improperly treated.

Mr. ATHERLEY-JONES, Q.C., represented plaintiff; while the defendants appeared in person.

Mr. ATHERLEY-JONES, in opening the case for the plaintiff, said the case against the defendants was that they had been negligent and unskilful in their treatment of the plaintiff. It appeared that in May, 1896, the plaintiff experienced some trouble with her teeth, and she resolved to consult the defendants, who carried on business in her neighbourhood. When she called at the defendants' place of business she saw Mr. Goldman, who told her that two of her teeth required to be stopped. With her consent he stopped them, but a day or two after the stopping came out. She again went and saw Mr. Goldman, who told her that there was nothing in the stopping coming out. He examined her mouth, and informed her that another tooth required to be stopped, and that the nerve would have to be destroyed. Mr. Goldman applied a red-hot iron to the nerve of plaintiff's tooth—a process unknown in modern dentistry—with the result that she suffered intense agony. In consequence of her suffering plaintiff again saw Mr. Goldman, who told her that she was suffering from neuralgia, and prescribed for her. She afterwards saw another dentist, who removed the tooth, and found that there was an abscess under it. He (the learned counsel) submitted that the plaintiff suffered considerably from the improper treatment which she received at the hands of the defendants, and that therefore she was entitled to moderate damages.

The plaintiff was called, and bore out the opening statement of counsel.

Mr. J. Aitcheson, L.D.S., and a registered dental surgeon, gave evidence to the effect that the plaintiff was improperly treated by the defendants. The application of a red-hot iron to the nerve was bound to result in bad consequences.

Mr. Edwin Harrison Fell, F.R.C.S., gave corroborative evidence. He added that the application of a red-hot iron might have done 150 years ago, but it was decidedly improper treatment now.

Mr. G. Goldman, one of the defendants, stated that when the plaintiff came and saw him Mr. Geary was not in. The plaintiff would not permit him to drill her teeth, and therefore he filled them according to her instructions. He told her they ought to be extracted, but she said she would rather have them stopped. On a subsequent occasion, when plaintiff complained of pain in her mouth, he came to the conclusion that she was suffering from neuralgia. Mr. Geary was a registered dentist, but witness was not. He (defendant) applied the red-hot iron to the nerve of the plaintiff's tooth.

Mr. A. Jones (in cross-examination): How long have you been in the business ?—I was born in it.

You think a dentist is born, not made ?—My father was a dentist, and I was brought up in the business.

We have heard of hereditary legislators, but not of hereditary dentists. How long have you practised as a dentist ?—I have not practised at all.

Was this the first case you ever treated ?—No, I have treated other persons.

Then you have been practising as a dentist ?—As an assistant.

You also practise as a barber ?—That is my mother's business.

You are an hereditary barber as well as an hereditary dentist ? Did you practise your mother's business ?—I gave her assistance at times.

Did it ever occur to you that the plaintiff had an abscess under the tooth ?—I did not think any gentleman could tell that. I still think it was a case of neuralgia.

Mr. G. Geary, the second defendant, a registered dentist, denied that the plaintiff was improperly treated. His firm, he said, treated her case as one of neuralgia. They acted in accordance with the instructions of the plaintiff, who said that she wanted her tooth stopped, and not extracted.

The Jury found a verdict for the plaintiff, and assessed the damages at £10.

Judgment accordingly, with costs.—*Morning Post.*

Reports of Societies and other Meetings.

Dental Hospital of London.

Prize Distribution and Conversazione.

The annual Conversazione and Prize Distribution of the Dental Hospital of London was held on July 20 at the galleries of the Royal Society of British Artists, Sir Frank Lockwood, Q.C., M.P., being in the chair.

Mr. Morton Smale (Dean) referred to the progress of the School during the past year, and gave an account of the present position of the Institution, which is in need of funds to meet the expense of rebuilding in Leicester Square. He made an earnest appeal for further financial help.

The prizes were then presented, the following being a list of the recipients:—

Saunders Scholarship: Mr. T. H. Miller, M.B., B.Ch. Ash's Prize: Mr. T. H. Miller, M.B., B.Ch.

Class Prizes.

Winter Session, 1896-7.—*Metallurgy.*—The First and Second Prizes are divided equally between Mr. T. H. Miller and Mr. T. W. Thew.

Dental Mechanics.—First Prize: Mr. N. Miller. Certificate of Honour: Mr. T. W. Thew.

Operative Dental Surgery.—First Prize: Mr. N. Miller. Second Prize: Mr. T. W. Thew. Certificates of Honour: Mr. T. H. Miller, Mr. S. D. Hey.

Summer Session, 1897.—*Dental Anatomy.*—First Prize: Mr. T. H. Miller. Second Prize: Mr. N. Miller. Certificates of Honour: Mr. J. W. Hislop, Mr. Manning, Mr. Z. J. Gibson.

Dental Surgery.—First Prize: Mr. T. H. Miller. Second Prize: Mr. W. H. Thomas. Certificates of Honour: Mr. N. Miller, Mr. J. W. Hislop, Mr. A. G. Payne, Mr. O. C. Penfold.

At the close of the distribution Sir Frank Lockwood said that he came before them as a member of another profession, equally unpopular, he believed, with that of dentistry. He supposed if there was one thing a man liked less in life than going to see his dentist it was going to see his lawyer. At any rate he got much more out of the dentist than out of the lawyer, and when he had finished with the former he knew the worst. He had had an opportunity of learning something about the hospital, in which he hoped the public would take special interest. Imprimis the object was to afford gratuitous advice and to execute operations gratuitously among the class of people who could not afford to pay. That should be a great claim upon the community at large, and should, indeed, excite their warmest sympathy and admiration for such an Institution. The secondary object was to afford those who were about to embark in the profession the necessary experience with profit to themselves and a reasonable amount of comfort to their patients. As he understood it, they were to be dentists pure and simple. They knew that "to the pure all things were pure," but the lawyer who was merely "simple" God might help, but no one else would. They were going to practise dentistry alone. He did not wish to criticise such a condition of things. Dentistry was a branch of surgical aid and medical skill that was well worthy of study alone as distinguished from other branches. He might say that in country districts specially it would be well if the "practitioners" had at least a superficial knowledge of dentistry. Some of them would remember a famous picture by John Leech, in which an unfortunate man was being dragged round the room by the operator, who at last produced the tooth with the remark, "Well, that is not bad for a first attempt, is it?" Vast strides had been made since those days, and he should think they had found that prevention was better than cure. With regard to the hospital, he was much struck by the figures in the report. In 1874, 19,255 cases were treated, and last year the number was 57,654. It was usual to treat the subject of toothache lightly. Benedict in "Much Ado About Nothing," said somewhere that "he had the toothache," and it always raised one of the biggest laughs in the play. But it was not fun for Benedict, nor was it for the poor people who suffered. In savage conditions he understood that the infirmity was borne with stoical indifference and lived down. But that could not be done in a civilised state, and the hospital could not win its way to the public better than by demonstrating that it was doing a great and good work.

During the evening an excellent selection of music was given under the direction of Mr. Herbert Schartau, assisted by Miss Jessie Kosminski, Miss Maggie Purvis, Miss Marian Blinkhorn and Mr. John Josey. Mr. Charles Bertram showed some clever card tricks.

Hospital Reports and Cases in Practice.

A Case of Removal of a Tooth from the Antrum.

By EDGAR FIELD, L.D.S.Eng.

In April, 1893, a patient about 22 years of age came to me complaining of severe neuralgia on the left side of the face, and on examination I discovered that the three upper molars on that side were missing, and there was a small sinus from which a little pus was flowing. After probing and discovering what appeared to be the crown of a tooth, I cut down upon it and packed the space with oiled lint until the surface of the tooth was visible. I then waited for nearly a year hoping that the tooth would erupt without any further interference, but not the slightest movement took place, and ultimately I removed the tooth under chloroform without much difficulty, the antrum apparently not being opened and the tooth having fairly normal roots. After this operation the neuralgia ceased for about three years, when the patient returned with just the same symptoms and I discovered the second molar, almost in the position from which I had removed the first. A wait of a year was again made, in the hope that the tooth would erupt; in the end, however, it became necessary to remove it under chloroform. Much greater difficulty was encountered than on the previous occasion, and as you will see, the tooth itself forms a part of the anterior and inferior walls of the antrum, and in the attempt to seize it with the forceps—which was necessarily done more or less by guess work—it shot right into the cavity and for a time was firmly lodged, probably held by the bony septa of the cavity. After being dislodged it commenced a wild career of dodging about in the antrum, and required ten minutes' hard struggling and a second dose of chloroform before I finally captured it, by fixing it with the forefinger of my left hand whilst I secured it in the forceps with my right. I syringed the cavity with chinosol, and the patient was well in about a fortnight.

The question is, will the third molar follow suit in another year or two; and also, why should a sound tooth cause so much irritation through being in a wrong place, although apparently not moving at all?

Abstracts and Translations.

Notes on Three Cases in Dental Practice of Unusual Interest.

By W. A. MAGGS.

Periosteal suppuration of two years' duration due to the buried roots of a tooth.—The points of interest in the following cases are : (1) The rarity of the symptoms, more or less acute, extending over two years, due to the fracture of a tooth during extraction. (2) The absence of any external appearance of the roots, or sinuses leading down to them. (3) The long continued suppuration, indicating the presence of necrosed bone.

Mr. F., aged about 24 years, a medical student, came to me in January, 1896, concerning some inflammatory condition involving the right superior maxillary bone. The patient stated about two years previously a dental surgeon had been unsuccessful in an attempt to extract the first right upper premolar, and had told him the roots were left in the jaw. The patient said he had suffered much pain and inconvenience since the operation, and that deep incisions had been made into the external alveolar plate on two occasions, and that each time pus had been evacuated, giving him some temporary relief.

Upon examining the mouth, I found considerable bulging of the external alveolar plate of the right superior maxilla, extending from the region of the canine tooth to that of the second molar, and upwards into the buccal sulcus, and the soft parts were inflamed and painful. All the teeth on that side of the jaw were present, except the first premolar and the first molar. The teeth *in situ* showed no signs of inflammation or abscess, nor did any pus exude from their sockets upon firm pressure. There was no discharge from the nose ; no roots or sinuses were visible at the spots where the teeth had formerly existed, and the gums appeared normal in those situations. In the absence of any obvious source of the inflammation I suspected the buried roots of the fractured premolar to be the exciting cause, more especially because a sharp-pointed probe, passed deeply into the gum in the mid-alveolar ridge in this situation, met with hard tissue, presumably a root, or some necrosed bone.

I suggested that an exploratory operation under the influence of an anæsthetic should be made, and the patient assenting, he was placed under ether on February 19, 1896, when I cut through the gum and found two roots of the first premolar tooth deeply imbedded in the bone. The roots were removed without much difficulty. The wounds treated antiseptically. A few small fragments of bone subsequently came away, and the wound healed rapidly and well. I may mention that Mr. F., at the time of writing, January, 1897, has had no further trouble.

Incomplete eruption of a lower wisdom tooth in a lady aged 72.—Mrs. D., aged 72, presented herself for treatment in 1890. Upon examining her mouth, I found the right lower wisdom tooth partially erupted, the anterior cusps alone being visible, and there was a serous discharge from the socket. The patient was wearing complete upper and lower vulcanite dentures, and no other tooth or root was visible in any part of the mouth. The mandible was much absorbed from age, and probably, too, from the continuous pressure of the dentures, which had been in use for some years.

The patient, and also her medical attendant, desired the removal of the tooth, but as no movement could be detected in it, and on account of its buried position in the ramus, and the wasted condition of the jaw, I decided not to attempt the extraction. It was my conviction that any such attempt would end in failure, that no great force was needed to fracture the mandible, and further, that in order to ensure operative success, it would be necessary to remove a V-shaped piece of the ramus leading down to the angle.

I cut freely away the vulcanite on the corresponding side of the lower denture, so that no mechanical obstruction to the eruption of the tooth should exist, and as the symptoms were not urgent, I advised her to wait until the tooth should become more fully erupted.

I have seen this patient from time to time since her first visit in 1890, and, so far as I can judge, the condition of the mouth has undergone no material change during the past seven years—the tooth is not further erupted and the discharge continues. There has been no inflammation of the neighbouring lymphatic glands, and her general health continues fairly good.

Severe earache, following the filling of wisdom teeth, due to abscess of the external ear.—Miss H. L., aged about 25 years, came to me for dental treatment on July 1, 1896. She had been under my hands during the last twelve or fifteen years, and latterly had been under medical treatment for obscure forms of neuralgia, for which there was no suspicion of any dental cause, although many of her teeth had been filled. On the above-named date I plugged with gold a medium-sized cavity in the right upper and lower wisdom teeth, the pulps of which were living, and there was no difficulty in the operations.

A week later the patient called, complaining of great and persistent pain in the right ear, which she thought was due to the fillings. I examined the wisdom teeth, and found they were not tender to touch or on percussion, unaffected by heat or cold, and no periosteal inflammation or suppuration existed. The patient did not complain of any pain in the teeth themselves, and as their examination gave negative results, I was led to the conclusion that the earache was not due to dental trouble.

Her pulse was high, and her temperature 100° F. I inquired if she had pain in the left ear, and she replied, "I think I have." A diagnosis of inflammation of the parotid gland seemed negatived, as there was no visible swelling on either side of the jaws, and no difficulty in opening or shutting the mouth.

There was no deafness, but the right tragus was tender; hence I strongly suspected, and told the patient so, that the case was one of abscess of the external ear.

I advised her to remain indoors, and to send for her regular medical attendant. Her father subsequently called upon me to say that my opinion was confirmed, and that his daughter had suffered from abscesses of the external ear *on both sides.—Guy's Hospital Gazette.*

Enamel Margins.

In an article in the *Stomatological Gazette*, Dr. Schuhmacher says:

"Nothing is more fatal to the longevity of a filling than the failure of enamel edges, and how often do we see beautiful fillings marred by a fracture or failure of the enamel at the margin, to repair which means to weaken the filling and often necessitates removal of the entire filling, rendering the original work of no avail.

"First, in regard to the extent of cutting away the enamel, we must consider accessibility to the cavity, appearance and strength, and we may say retention, although I believe we all agree that a filling dependent upon enamel walls for retention is indeed a weak filling.

"Different rules are to be applied to the different teeth, as we would not follow out the same rules in molars as in incisors.

"In all cases of approximal decay in molars and bicuspids the enamel edge should be trimmed away so as to have all edges of the filling accessible to the explorer point, and after the teeth have resumed their natural position, the point of contact should be upon the body of the filling, and not at the union of enamel and filling.

"This may seem in some cases like sacrificing appearance for the sake of durability; but I think such a course much more commendable than sacrificing durability for the sake of appearance.

"There are many carefully inserted fillings which have failed at the edges, which would have held longer if the enamel edges had been trimmed away more generously.

"The patient probably wanted amalgam used, considering the saving of time and money, but at the same time objected to showing much of the filling on the buccal or labial side. The result is that the buccal wall is generally undermined by decay in the course of time, depending on the quality of enamel and dentine, and so must eventually be cut away to a greater extent than would have been necessary had the enamel been trimmed away more in the first place.

So, by all means, see that when the operation is completed the explorer point can be passed over all edges, thus insuring a self-cleansing surface.

"Where we have very hard dense teeth, of square shape, the approximal surfaces of which are almost flat and fitted together like a row of bricks, we would find it difficult to extend small cavities so as to bridge the edges free from contact with the neighbouring teeth. In these cases we must necessarily leave the larger part of the cavity hidden.

"But here we see exemplified one of the rules of an all-wise Providence, such teeth as just described being, as a rule, of the very hardest structure, and in the mouth of a well-organised and healthy patient.

"But no matter of what shape the teeth, if they seem to be of loose structure with chalky enamel, the enamel edge should be carried out to where it would be self-cleansing, subject to the action of the lips, tongue and cheek muscles.

"It is perhaps difficult to describe variously shaped cavities without the aid of charts and diagrams, but as we are considering only general cases, it is perhaps unnecessary.

"One very important phase of the work here presents itself—the disposal of overhanging edges of enamel, cusps, &c.

"In a large approximal cavity in a molar or bicuspid the temptation is often to leave the cusp intact and depend upon oxyphosphates to strengthen the same. But a large proportion of such cases will present themselves in time with the cusp entirely gone, not so much from recurrence of decay, but on account of the enamel having split at its weakest point. It is safer to use the chisel freely and depend on a liberal groove cut into the grinding surface for retention. By making such retention we can fearlessly trim away all weak enamel and not have to depend upon deep cutting into sensitive dentine.

"In incisor fillings, speaking of approximal decay, the majority of failures are at the palatal edge, especially when this edge has not been carried down so as to be accessible from the palatal side.

"Where the cavity is of considerable extent, it is safer to use the chisel freely from underneath, so as to have sufficient room to fill partially or wholly from that side, as the case may be. At any rate it is a great advantage to be able to finish the palatal portion of the filling from the palatal side, and where this trouble is taken the result generally repays the effort.

"In regard to the treatment of the very edge itself, the rule is to bevel all enamel margins, and I think every careful operator bevels enamel edges to a greater or less extent.

"In small shothole fillings, we are often tempted, on account of the ease of the work and its simplicity, to leave the edge as it is left by the burr; but it is in just these easy cases, where confidently working speedily, we shatter the enamel edge at one point or another.

"By thoroughly bevelling the edges of all cavities, large or small, we avoid the common cause of failure in gold fillings, the shattering of the enamel edges with the plugger-points."—*The Ohio Dental Journal.*

Reviews and Notices of Books.

RICHARDSON'S MECHANICAL DENTISTRY. Seventh Edition. Revised and edited by George W. Warren, D.D.S. London: J. and A. Churchill.

The editor's note to the seventh edition of this well-known book is almost identical with that written to the previous issue in 1894, but we fail to recognise those elements of improvement which might have been reasonably expected in a new edition dealing with such an expansive science as mechanical dentistry.

The illustrations have been increased to 691, but the old familiar trade catalogue cuts are still present—even down to the humble mouth blow-pipe, with every problematic benefit to the readers and with doubtful credit to the author. It is questionable whether crown and bridge work should enter into a book of this kind, as the subject has become so bulky as almost to demand a volume to itself; and the subject of the correction of dental irregularities comes to possess a somewhat anomalous position, owing to the fact that it is now treated of in works on dental surgery. The treatment, however, in the volume under consideration is wholly inadequate, the samples and more generally adopted methods being entirely ignored in favour of more complicated treatment. As an instance of this we might note the treatment of superior protrusion, where the very simple and effective plan of raising the articulation and giving more room in the incisor region for bringing in the upper teeth is not even mentioned; whereas without this simple expedient no amount of force can possibly overcome the mechanical difficulty which presents itself. The same criticism would apply to the methods of expanding the arch—the simplest of all by a Coffin spring is absolutely ignored.

The strong points of the book are its comprehensive nature, and often well expressed details from the mechanical point of view. Its weakness lies in the inadequate expression of the scientific principles which ought to underlie every detail; a book of this sort might reasonably be expected to *supplement* the rule of thumb education too often supplied to our mechanical pupils, by offering them the scientific explanation of much that must be obscure. That there is much looseness in this direction is but too apparent, and a single instance will serve to illustrate the point. On page 312 the equivalents of temperature in steam pressure are very properly set forth in a table, but the editor gives himself away at p. 305 by telling us that the equivalent of 320° F. is 120 lbs. pressure to the square inch; a statement which is not only loose but dangerous if believed and carried out in practice.

New Inventions, &c.

Formagen.

FORMALDEHYDE, a colourless gas having a pungent odour and very irritating to the respiratory organs, was prepared by Hoffmann in 1867. It was produced by the incomplete combustion of methyl alcohol, the oxygen, during the process, withdrawing two atoms of hydrogen from the alcohol. Formaldehyde is one of the most efficacious antiseptics known to us at the present day, for it is endowed with the power of penetrating, in the most energetic manner, into animal and vegetable tissues. It is non-poisonous, for it has no caustic action; but when highly concentrated and in large quantities, it may, of course, be injurious to the animal organism, as it causes alterations in the tissues, but without destroying them. If formaldehyde be allowed to act upon mucous membranes or exposed connective tissues, a peculiar discolouration and a leather-like condition becomes noticeable, which after a time spontaneously pass off, and the normal condition is restored. In addition, it causes an almost intolerable burning pain on raw surfaces and mucous membranes.

The use of formaldehyde for the disinfection of irritated and inflamed pulps was first reported by Lepkowski (*Verhandl. d. Deutsch. Odontol. Gesellsch.* Bd. vii.). He used the simple 40 per cent. solution of formaldehyde in water. He applied this solution on a plug of cotton-wool to the carious cavity in the diseased pulp, and at once placed over it a permanent plastic stopping. This method promised to be successful, but the pain set up was intolerable; the method, therefore, can scarcely be seriously regarded as available in practice.

This preparation, formagen, consists of a fluid and a powder, both of which are saturated with formaldehyde. Both are mixed together, like an ordinary cement, upon a slab of glass; the result is a cement which, during the process of hardening and after its completion, very gradually gives off formaldehyde vapour. This vapour, in the nascent state, is said to act painlessly upon the pulp, combating the inflammation, and facilitating the restoration of the tissue of the pulp, provided that the latter has not been destroyed by suppuration. This peculiar effect of formagen upon the pulp goes on without any dressing or other treatment being subsequently necessary. All that is required is to apply formagen in a plastic condition to the diseased pulp, and to complete the filling-up of the cavity with plastic permanent stopping-material, phosphatic cement being the best for this purpose.

Statistics, if such can be relied on, give the following results:—in 4,679 cases in which formagen was used in all stages of pulpitis, 43 failures occurred. This constitutes about one failure in every 100 cases treated by formagen. Such results look thoroughly satisfactory.

There is naturally a fear that, although a good result might at once ensue, yet some time after death of the pulp might occur and manifest itself in purulent processes involving the periosteum of the root and the alveolar process. The statistics, however, seem to prove that this apprehension is groundless, for all the 43 cases of failure demanded subsequent treatment within a few days after the application of formagen. There was not a single case of a tooth having been treated with formagen and looking well at first, periosteal symptoms supervened after the lapse of months. On the contrary, in 32 cases it was positively determined that pulps in which severe inflammation had existed were alive for months after stopping with formagen and exhibited a normal reaction.

Regarded as a pure matter of experience, these results would appear to show that pulpitis is curable. But it is difficult to harmonise this fact with previous views and with Miller's statements. An explanation may be possible in the fact that formagen is a very spongy, slightly porous substance, which speedily absorbs moisture from its surroundings. If it be applied to the cavity containing the inflamed pulp, it very rapidly absorbs any existing exudation or purulent accumulation, thereby reducing the excessive tension in the cavity and in the pulp. When the vapour of formaldehyde passes into the pulp cavity, inasmuch as it possesses an extraordinary power of penetrating connective and osseous tissue, and of traversing carious dental structures and the pulp itself, it completely destroys all bacteria which may have passed beyond the limits of the cavity. " The power of absorption possessed by the formagen is said to increase with the amount of formagen vapour given off to the surrounding parts. After a period, varying from twenty-four hours to four or five days, the portion of the pulp bordering upon the carious cavity becomes hard and insensitive. The pulp pain, which mainly depends upon congestion of blood in the pulp and the pressure which the distended blood vessels exercise upon the minute branches of the pulp nerves, ceases very rapidly, because the pressure is removed by the absorption of the exudation.

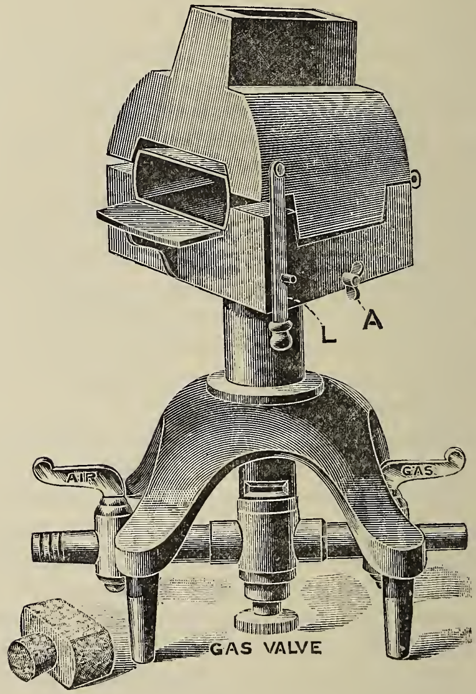
" It is well known that the congestion of blood in the pulp produces constriction of the blood vessels in the foramen at the apex ; but with the removal of the pressure the circulation again becomes free, and thence the regeneration of the whole organ goes on from the border of the pulp which has remained intact.

" The fact remains that the pulp, shortly after it has been covered over with formagen cement, becomes quite hard and free from reaction ; but in about four weeks' time it regularly reacts to thermal stimuli, and regains its normal colour and consistence."

A New Continuous Gum Furnace.

By J. A. GARTRELL, L.D.S.

The above engraving is an illustration of a new Continuous Gum Furnace. It is an enlarged size of the bridge furnace illustrated and described in the May number of this journal, and has a similar nickel muffle and combined Bunsen and blast burner. The muffle is three inches wide inside and will fire the largest set of continuous gum work. These muffles



have now been in use for about four years, and being made from much thicker nickel plate than the very thin platina muffles, will be found superior to them. The nickel and manganese alloy in these muffles oxidises so slowly that they can be guaranteed to fire from 200 to 500 cases, and the old muffle can be instantly removed and replaced with a new one. This feature in the construction admits of the muffle being removed whilst red hot with the work inside and another case proceeded with.

The combined Bunsen and blast burner is one of a type introduced by Mr. Fletcher some years ago, also applied to Dr. Stoddart's dental furnace in the United States, in 1889, and described in the *Dental Cosmos;* the modification shown in the above apparatus will, it is believed, be found greatly superior to any other. The mouth of the burner is 2½ inches wide giving a broad flame of great power when worked as a blast burner. The Bunsen is used to heat the muffle until it shows signs of redness. Mr. Verrier was the first probably to adopt this method of giving a preliminary heat to the work with a Bunsen flame, before applying the blast. The advantages are that the work is heated more evenly and gradually than by blowing from the beginning, besides saving half the labour of working the bellows. About eight or ten minutes may be given for heating with the Bunsen, and three minutes for the blast to fire a full set; a crown may be fired in two minutes. This furnace has only one serious rival, viz., the electric furnace, but on account of the simplicity of this gas furnace, the cheapness and convenience of the fuel, the non-liability to get out of order, and the rapidity with which the work is fired, it will probably be found to have a wider use than the electric furnace.

The latter has drawbacks in the time required to fire a coat of body, the expense of electricity, the cost of the furnace (about four times of the one described above) and the delicate management required. One of the users in this country states that it costs ten shillings for electricity to fire a case and takes 45 minutes to fire a single coat, as there is danger of fusing the platina wires if the heating is urged.

Miscellanea.

The Royal College of Surgeons of England.

The following gentlemen having passed the necessary examinations, have been admitted Licentiates in Dental Surgery:—Donald Ackland, Charing Cross and the Dental Hospital of London; John Cressey Arnold, London Hospital and the National Dental Hospital; Harold William Colmer Austen, M.R.C.S.Eng., St. Bartholomew's and the Dental Hospital of London; Robert John Bell, Charing Cross and the Dental Hospital of London; Charles Every Brown, Guy's Hospital; Ernest Chodwick Brown, Guy's Hospital; James Warburton Brown, Charing Cross and the Dental Hospital of London; Loftus Henry Canton, Middlesex and National Dental Hospital; Frederick Arthur Coats, University College; Percy Herbert Cook, Guy's Hospital; Albert Cooper, Guy's Hospital; Percy Henry Rogers Cooper, Charing Cross and the Dental Hospital of London; James Carfrae Douglas, Charing Cross and the Dental Hospital of London; Frank Hubert Duncan, Charing Cross and the Dental Hospital of London; Charles Everett, Middlesex and the National Dental Hospital; Walter Floyd, Guy's Hospital; William Frederic Forsyth, Charing Cross and the Dental Hospital of London; Sydney Harrison, Guy's Hospital; Arthur Reginald Heath, Charing Cross and the Dental Hospital of London; Stephen Daniel Hey, Charing Cross and the Dental Hospital of London; Robert Gabriel Stuart Holmes, Guy's Hospital; Jacob Michael Cecil Jacobs, Guy's Hospital; William Henry Jones, Middlesex and Dental Hospital of London; Charlie Lees, Charing Cross and the Dental Hospital of London; James Lishman, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Benjamin North, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Alfred Ernest Oddy, Guy's Hospital; Ernest Picnot, Guy's Hospital; Alfred Ben Poundall, Middlesex and the National Dental Hospital; Matthew Pearce Powell, Charing Cross and the Dental Hospital of London; George Frederick Reading, Charing Cross and the Dental Hospital of London; Arthur Edwin Robertson, St. Bartholomew's and the National Dental Hospital; Robert Percy Robinson, University College, Royal Infirmary, and the Dental Hospital, Liverpool; David de Sola Cohen Rogers Charing Cross, and the Dental Hospital of London; John Langdon Roper, Middlesex and the Dental Hospital of London; William Francis Rowe, Charing Cross and the Dental Hospital of London; Bernard Frederick Sadler, Mason College, Queen's and General Hospitals, and the Dental Hospital, Birmingham; Arnold Ward Shedden, Mason College, Queen's and General Hospitals, and the Dental Hospital, Birmingham; Edwin Herbert Jacob Smart, Charing Cross and the Dental Hospital of London; Edward Percy Smith, Charing Cross and the Dental Hospital of London; Edwin Wylde Smith, Guy's Hospital; Thomas William Smith, Charing Cross and the Dental Hospital of London; John Walton Stoner, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Albert St. John Styer, Guy's Hospital; Gilbert Hamilton Summers, Charing Cross and the Dental Hospital of London; Thomas Wilton Thew, Middlesex and the Dental Hospital of London; Oswald Tidswell, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Charles Edward Wallis, M.R.C.S.Eng., King's College and the Dental Hospital of London; Elton George Whishaw Wallis, Guy's Hospital; Henry Westron, Charing Cross and the Dental Hospital of London; Sidney Herbert Williams, Charing Cross and the Dental Hospital of London; Stuart Willis, Mason College, Queen's and General Hospitals, and the Dental Hospital, Birmingham; Charles Albert Wilson, Guy's Hospital; George Edward Wilson, Charing Cross and the Dental Hospital of London; William Barnabas Woodhouse, M.R.C.S.Eng., Middlesex and the Dental Hospital of London. Fourteen gentlemen were referred back to their professional studies for six months.

The Royal College of Surgeons of Edinburgh.

During the July examinations the following gentlemen passed the first professional examination for the Licence in Dental Surgery:—William Gerard Morgan, Edinburgh (with distinction); Campbell Hossack Baxter, Grimsby (with distinction); Charles Smart, Musselburgh; Charles Frederick Turnbull, Sunderland; George Reginald Brittan, Plymouth; Alexander Campbell, Alexandria, N.B.; Alfred Ebenezer

Park, Edinburgh, and Adam Currie Reekie, Edinburgh. The following gentlemen passed the final examination and were admitted L.D.S.Edinburgh:—James Coltman, Newcastle-on-Tyne (with distinction); John Norman Macdonald, Lincoln; John Thomson Kilpatrick Thomson, Glasgow; George Albert Lloyd, Denbighshire; Thomas Percy Wolston Watt, Ceylon; Arthur Capper, Huyton, Liverpool; Alexander Munroe, Edinburgh; George Braidwood Wilson, Liverpool; Charles Nelson Park, Campbeltown, and Sydney Joseph Smith, East Preston.

Mr. E. Jessop, L.D.S.I., has been appointed dental surgeon to the County Poor Law School (Oxford), at a salary of £15 15s. per annum.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

"Sir William Thomson and Dental Examinations."

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

Sir,—The somewhat hysterical article upon "Sir William Thomson and Dental Examinations," with which the readers of your last issue were indulged, was unfortunately so worded that those who were unable to read between the lines would naturally conclude that it was nothing more than an undignified personal attack upon Sir William Thomson. Now, although much that transpired at the recent sitting of the Medical Council was of a nature to arouse the indignation of the well informed in dental matters, yet recrimination is always a doubtful remedy. Sir William Thomson's remarks were obviously the result of gross ignorance, an ignorance that perhaps is responsible for much of the reprehensible laxity in dental matters of the College he represents. Ignorance needs instruction, not castigation, and it is with that in view that the article in question should have been written.

Moreover, why was Sir W. Thomson singled out? Those who carefully follow the proceedings of the Medical Council must have noticed that other members have at times, if it were possible, betrayed as crass an ignorance upon the same subject. Mr. Rentoul by his very question indicates a thirst for information that will probably only be satisfied when the dental representative to whose support he is pledged sits by his side at the Council. But is that likely to happen so long as there are members of that august body who imagine that the science and art of dental surgery is comprehended by the phrase "the drawing of teeth"? No, it is not likely. The General Medical Council, then, requires education, and since it has learnt so little in its twenty years' association with dentistry, it is time to inquire into the causes of its "backwardness." For the chief cause we have not far to seek. There is a clause in the Dentists Act which exempts medical men from the restrictions of the Act; in other words it assumes that any medical man—Sir W. Thomson himself, for instance—is qualified to practise dental surgery. Now Sir William Thomson has candidly, albeit somewhat indiscreetly, defined the limits of his personal knowledge of that special branch of surgery, and although they are surprisingly narrow, we must not assume that less eminent surgeons are better informed. The injustice, therefore, of this clause of exemption is proved out of the mouth of an eminent member of the very Council which ought to be approached upon the subject. If a deputation from our Representative Board were appointed to urge upon the Medical Council the necessity for the amendment of the Dentists Act in this particular, it would be an excellent opportunity of imparting a little information that would prepare the minds of its members for further reform.

I am, Sir,
Your obedient servant,
T. E. CONSTANT.

Argyll Lodge, Scarborough.
July 17, 1897.

The Establishment of a Dental Department to the Oxford Provident Dispensary; a Request for Suggestions and Help.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—We have in this city a Provident Dispensary, which numbers some 7,500 members, and we are anxious to establish a Dental Department in connection with it. The difficulty of doing so is considerable, for reasons which will suggest themselves at once to your readers. If any one can give any hints, or, even better, experience on the subject, I should be grateful to him if he would communicate with me.

I have the honour to be,
Yours faithfully,
L. R. PHELPS.

Oriel College, Oxford.
July 20, 1897

Demonstrations at the Dublin Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—At the approaching meeting of the British Dental Association in Dublin, the Executive in Ireland has arranged to add to the interesting demonstrations in mechanical work and in operative dentistry certain special features.

Firstly, Dr. Angle has promised to demonstrate on selected patients his method of treatment of irregularities. These demonstrations on the actual subject will, we believe, prove still more interesting than the papers read before the Association on the same subject.

Secondly, in the Microscopic Section we hope to have all the different points in dental microscopy explained and clearly demonstrated by experts in dental histology.

Thirdly, a further notable feature will be the demonstrations in Röntgen ray work, by Dr. Haughton, who for a considerable time has been making experiments in this form of photography at our Dental Hospital. I believe there is a great future in dentistry for this process; indeed, as far as I know there is no more practical field for the use of Röntgen rays than in our speciality. I look forward to the time when the taking of such photographs shall be as great a desideratum as the use of an anæsthetic. It can now be demonstrated that a satisfactory diagnosis of any case can be made well within the hour (exposure of the patient about five minutes). This at once brings this process within the range of practical dentistry.

The dental profession is much indebted to Mr. Frank Harrison for his work on this subject. His papers, however, have one great fault (a fault creditable to himself), namely, that he has underrated the advantages in diagnosis of this process. I am disposed to think also that the initial expense (some £40), will not be so prohibitive as Mr. Harrison anticipates.

I do not agree with Mr. Harrison that the local photographer is the man for this work. A competent knowledge of oral anatomy is a *sine quâ non* for these Röntgen photographs.

We hope at the Dublin meeting to demonstrate among others the following points: (1) Retarded eruption (chiefly wisdoms and canines); (2) abscess; (3) abnormal roots; (4) length and direction of root canals; (5) exostosis, and other points.

The Executive here consider that in a large educational centre like Dublin, the investigation of these points is calculated to raise in our cognate profession sympathy and intelligent admiration. We believe that the more thoroughly and widely the aims of the legitimate dentist are impressed on the medical mind the better will it be for our Association, and the more readily will be conceded by the medical and other learned professions our claim to be recognised as a liberally educated profession.

I regret that I am writing in great haste, and beg to remain,

Yours faithfully,

R. Theodore Stack.

The Annual Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—The curtain is about to rise on the Dublin Meeting, and the performance is well nigh ready to begin, so I take this last opportunity of beating the big drum, and inviting the ladies and gentlemen to "walk up," in the hope that some waverers may be induced to come to a decision, and that decision the wise and proper one, to come to Dublin, and enjoy to the utmost such attractions as we may be able to offer.

Those of your readers who have studied the programme in the July Journal, and on their reply postcards, will be able to form a fair idea of what these attractions are, and to that idea I do not propose to add much here, as those who do not come do not deserve to be told any more, and those who do come can see and judge more for themselves than by the light of any information I could give. Dublin will be *en fête* during the week of our Meeting. The Reception Committee are too modest to claim all the credit of bringing about the State visit of the Duke and Duchess of York, who will arrive here on Wednesday, the 18th, but anyhow they are coming, and our city will be seen at its brightest and best. But the hearty welcome given to our Royal visitors will in no way interfere with or detract from the "cead mille failthe" which we have in store for our brethren of the British Dental Association, and the ladies who will do us the honour of accompanying them. Members will find awaiting them at the enquiry office, the tickets for the various entertainments at which they shall have expressed their intention of being present, but the tickets for the Reception by Mr. and Mrs. Andrew, at the College of Physicians, on the evening before the meeting, will be forwarded beforehand.

From a few of the replies already received there would seem to be some uncertainty about one or two points which I should like to clear up. The dinner to the Representative Board, on Tuesday evening, the 17th, does not in any way clash with the Smoking Concert later on, and those who dine at the College of Surgeons can bottle up their *post-prandial* conviviality for consumption at the Arts Club close by at a later hour. Again: members who have to hurry back across channel will save very little time by not coming on the Glendalough excursion. The special train, on its return journey, will pass through Kingstown, setting down those who must go by the evening mail steamer with plenty of time to spare; and any such members communicating with me beforehand can have their luggage collected from their hotels, and will find it on the boat before them. Wheel men and women will do well to bring their windshod steeds, and I can promise them a delightful run through some of the most beautiful of Wicklow scenery.

When these lines are in the hands of our members it will not be too late even for those misguided ones who have already sent in negative replies to reconsider the position and follow the commendable example of the young man who "afterward repented and went."

I am, dear Sir, faithfully yours,

GEO. M. P. MURRAY, *Hon. Sec. Irish Branch B. D. A.*

The Dental Hospital of London.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—I believe a great many of our past students did not respond to the appeal made to them four years ago on behalf of a new hospital, because they felt that the scheme was only "in the air." Now that the site is cleared, the plans accepted, and the building operations to commence forthwith, I hope those that held aloof will "come over and help" their Alma Mater.

During the next three years the hospital will be in a tight corner for funds, but subsequently the rents that will be paid for the row of shops that are to be erected under the building will place the charity upon a firm foundation. That the financial position is secure may be gathered from the fact that both Mr. F. A. Bevan and Lord Kinnaird have consented to be Trustees.

I shall be glad, Mr. Editor, if you can spare me space to explain our present position.

The site we have secured is perhaps the best that could be found in London, in a central position, and with an uninterrupted north light. The hospital, moreover, will remain in Leicester Square, and so a continuity of the past history of the charity will be maintained.

To secure this site we have had to mortgage it, borrowing the money at 3½ per cent., which we have promised to repay at the rate of £1,000 a year. The building will be paid for by the price that the present hospital will be sold for, together with the premiums to be paid by the shops, but until the new building is erected none of this money can be realised. I hope, therefore, that all the lovers of their old hospital will help us in our difficulties as they have always done in the past.

There is not a member of the dental profession who is not deeply indebted to this hospital. Our own students owe everything to it, and I believe will not be slow to show their gratitude by helping her at the present time.

Your obedient servant,

MORTON SMALE.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All Contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 9. SEPTEMBER 15, 1897. Vol. XVIII.

The Dublin Meeting.

Now that the Annual Meeting has come and gone, and there is leisure to reflect on the many and varied pleasures and profits which have been gathered from the visit to Dublin, we may indulge in a brief retrospect, the more so as there was little, if anything, to mar this agreeable picture of harmony and hospitality. Robbed though it may have been of the presence of some well-known faces, and one or two valuable papers—for crossing the silver streak in stress of storm is not to the minds of all—there were nevertheless many who did not allow the sea to turn them from their purpose of assisting to the success of the Annual Meeting. There were some, especially of our London friends, who neither robbed it nor helped it, but merely passed it by, to whom repose or relaxation were uppermost; how unlike Dr. Stack, our good president, and the secretaries, both general and local, who were worked well-nigh to exhaustion, that all might enjoy to the full the ample and varied programme that had been provided. To them, to the sectional president Dr. Baker, to the authorities of Trinity College Dublin, to the Royal Colleges of Physicians and Surgeons of Ireland, to the Science and Art Department, to the Dental Hospital of Dublin, to the Social Clubs, to Sir John Banks and Sir John Power, our thanks are due for the successful carrying out of the meeting. Nor must we forget to thank the ladies who cheered our flagging spirits with tea and bright smiles, with chat and with music and song; or the different members who contributed by paper or demonstration.

Post-graduates we were, keeping our terms of a day amidst the green pastures of Trinity College, under the shadow of its stately Renaissance architecture, or resting for refreshment in the grand old dining - hall; each a teacher and learner, giving and receiving by turns; adding to fresh knowledge, fresh courage and fresh resolve. For this is the worth of all such meetings; at home we read of this man's work and that one's views, but we have not the personal equation of each. Here all is brought to a focus in friendly intercourse; a year's work, it may be, is shortened by a kindly suggestion or casual remark, or the demonstration in detail begets the thought —what one can do so can another, and is the death-warrant to the old rule of thumb we clung to so long. At such meetings, too, the fancied grievance, or the bitter jealousy is often smoothed away, for can we pass a light and not pledge in the wine cup? Thus each year we broaden in our views and grow more tolerant of new ideas, till the meeting which was once a bore becomes a bright spot in the year of toil.

Of the aims and aspirations of our Association, of the progress of dentistry, of the higher professionalism, such themes formed the thread of our banquet oratory. Was it a fuller insight into the worthiness and dignity of our calling, and of its dangers too, or perhaps the grand Hall of Trinity, with its stirring memories, or the spell of Grattan, whose portrait faced him at our parting feast, that moved our veteran leader, Mr. James Smith Turner, to impassioned eloquence, as he warned the rising practitioner not to march to " the clink of the guinea?"

Amongst the papers which appeared before the meeting, that of the President, Dr. Stack, on " Neglected Caries of the First Teeth," contained some new and important points for discussion, as also did that of Mr. Pearsall on " The Management of Springs ;" Professor Scott's paper on " The Colouring of Lantern Slides" was a delightful revelation, and his methods are certain of wide adoption by teachers. We think also Mr. Storer Bennett's method of staining nerves of the pulp to be amongst the best we have seen. Dr. W. S. Haughton's demonstration of the nature of two cases of abnormality of the jaws and teeth by means of X-ray pictures, taken, developed, and thrown on the screen " while you wait," was also a success, as far the hurried method would allow.

In the Microscopical Section the President, Dr. Baker's excellent introductory address was well received, and worthily headed an unusually full list of papers. Mr. Leon Williams' beautiful photo-micrographs, in illustration of his ideas of Enamel Formation, were genuinely appreciated, as were also Mr. Tomes' on dentinal tubes in enamel. Amongst the demonstrations porcelain crowns and bridges of excellent colour, and free from shrinkage, were fired before us ; there was a sensitive molar successfully prepared and filled by the aid of cataphoresis, while various methods of crowning, swaging of plates, flasking, and many other things were shown and explained again and again to the members.

The Microscopical Exhibition, under Mr. Hopewell Smith, was also a great success, and by a rare coincidence three specimens of bony anchylosis of the fang were present for comparison.

We have not mentioned the Reception at the Royal College of Physicians, by the President of the Irish Branch and Mrs. Andrew, and the Soirée by Dr. and Mrs. Stack at the Science and Art Museum, with its rare gold ornaments and Celtic antiquities, a feast of enjoyment to one and all; or the pleasure trip through some of the best Irish scenery to Glendalough, or the many other marks of hospitality which went to make our lot in Dublin so merry and so gay. Should the Annual Meeting at Bath next Whitsuntide prove as good and graceful as the one just past, our Association may well feel proud of its branches.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

THE ANNUAL GENERAL MEETING.

The Annual General Meeting was held in the School of Physic, Trinity College, Dublin, on Tuesday, Wednesday and Thursday, August 17, 18, and 19, 1897.

For several days prior to the opening of the Annual General Meeting in Dublin, members were coming into the capital from all parts of the Kingdom, spending the interval in visiting the various places of interest in the city and making short excursions to the many beautiful spots along the coast. No doubt a large number of English and Scotch members took the opportunity of the meeting being held in Ireland to spend a portion of their holiday in that country.

Unfortunately the weather during the few days preceding the 16th broke up, and frequent heavy showers and boisterous winds made sight-seeing far from pleasant.

The following members signed the attendance book :—

Ackery, J., London.
Alexander, M., Liverpool.
Anderson, W. D., Glasgow.
Andrew, John J., Belfast.
Apperson, A. C., Birmingham.
Apperson, James F., Birmingham.

Bacon, W. B., Tunbridge Wells.
Bailey, W. B., London.
Baker, A. W. W., Dublin.
Bateman, G. W., London.
Bell, Frank, Tunbridge Wells.
Bennett, F. J., London.
Bennett, Storer, London.
Biggs, J. A., Glasgow.
Birch, J. Charters, Leeds.
Bishop, S. J., Dublin.
Black, Gerard, Dublin.
Blyth, Z. C., Hull.
Brooks, H. R. F., Banbury.
Brown, Ed., Barnstaple.
Burt, Walter, Weymouth.

Canton, F., London.
Clegg, Joseph E., Isle of Man.
Corbett, Daniel, Dublin.
Corbett, D. jun., Dublin.
Craig, J. Thos., Leicester.
Cumine, R. H., London.
Cunningham, Charles Maclean, Belfast.
Carew, Wm. K., Dublin.
Coysh, T., London.

Davies, F. E., Dublin.
Dall, William, Glasgow.
Dolamore, W. H., London.
Dunlop, John, Kilmarnock.
Dunn, A. S., Liverpool.
Durward, J. S., Edinburgh.
Dykes, William, Cheshire.

Edwards, Richard, Liverpool.
Egan, L. J., Cork.
Elmitt, S. F., Newcastle-under-Lyme.
Elwood, W. H., Belfast.

Gartrell, J. H., Penzance.
Gill, Harry Beadnell, London.
Goldie, G. J., Dublin.
Goodman, Edwin, Taunton.

Hale-Jessop, E. C., Oxford.
Harding, W. E., Shrewsbury.
Hare, G. F., Limerick.
Hargrave, W. W., Southport.
Harrison, Walter, Brighton.
Hatton, F. J., Bristol.
Hayman, S. J., Clifton.
Headridge, David, Manchester.
Headridge, W., Manchester.
Helyar, W., Clifton.
Hern, William, London.
Hilder, A. T., Birmingham.
Howard, F. R., Birmingham.
Hughes, Morgan, East Croydon.
Hudson, Alfred, Leominster.

Jackson, T., Burnley.
Jameson, J. T., Newcastle.
Jeffery, Louis, London.

Kekwick, J. F., Carlisle.
Knowles, Vernon, Reading.

Large, C. W., London.
Lee, Josiah, Bradford.
Lennox, R. P., Cambridge.
Lindsay, Robt., Edinburgh.
Lloyd-Williams, E., London.
Lodge, A., Huddersfield.
Lodge, George H., Rotherham.
Lonnon, F., London.
Love, Hugh, London.
Lumley, John W., Kirby Moorside, Yorks.

Mallet, J. A., Exeter.
Macmillan, J. M., Glasgow.
McAdam, G. C., Hereford.
Maden, W. H., Rawtenstall.
Mason, Henry B., Exeter.
Milnes, J. H., Huddersfield.
Mitchell, A., Dewsbury.
Mitchell, Samuel, Dewsbury.
Murray, George Mark Patrick, Dublin.

O'Duffy, K. E., Dublin.
O'Meehan, Patrick, Limerick.

Paterson, W. B., London.
Poock, J. A., Norwich.

Quinlan, T., Cardiff.

Read, L., Newbury, Berks.
Reeves, Samuel George, Dublin.
Renshaw, Isaac, Rochdale.
Richards, F. W., Birmingham.
Richards, G. O., Richmond, Surrey.
Rogers, Cameron, Wexford.
Routledge, C. L., Newcastle-on-Tyne.
Routledge, W. G., Newcastle-on-Tyne.
Rushton, William, London.

Sanders, J. J. H., Barnstaple.
Sherlock, Henry G., Dublin.
Shillinglaw, W., Birkenhead.
Sievers, Ferdinand, London.
Smith, Alfred, Clapton.
Smith, Arthur Hopewell, Boston.
Smith, D. McCallum, Dublin.
Somerville-Woodiwis, W., West Hartlepool.
Stack, Richard Theodore, Dublin.
Stewart, James, Perth.
Stoker, F. O., Dublin.
Stokes, C., Sheffield.
Storey, W. G., Dublin.
Sutcliffe, Wm. A. O., Bradford.

Tanner, Thomas, Manchester.
Taylor, William, Batley.
Taylor, William, Glasgow.
Thacker, J. W., Dublin.
Thomson, J. S., Dublin.
Thomson, M. F., Dublin.
Thistlewood, L., Warwick.
Tucker, J. S., Dublin.
Turnbull, R. A., Newcastle-on-Tyne.
Turner, J. Smith, London.

Vice, W. A., Leicester.

Walker, P. S., Dundee.
Wall, Charles, Dublin.
Wallis, Ernest J., Alloa, N.B.
West, C., London.
Whittington, W. B., Blackpool.
Whittles, J. D., Birmingham.
Williams, Herbert, Londonderry.
Wilson, David B., Edinburgh.
Wilson, J. A., Bangor, N. Wales.
Wilson, Thomas, Glasgow.
Wolfenden, Arthur B., Halifax.
Wood, John, Brighton.
Woodward, Roger, Radcliffe.

Yates, S G., Herefordshire.

The following visitors also signed the attendance book :—Edward H. Angle (St. Louis, Mo., U.S.A.), Dr. J. E. Grevers (Amsterdam, Netherlands), A. J. Bradshaw (Kingstown), Dr. E. Burt (Paris).

MONDAY, AUGUST 16.

Reception at the Royal College of Physicians.

A hearty welcome to Dublin was accorded to the members of the Association on Monday evening, the 16th, at a Reception held in the Royal College of Physicians by the President of the Irish Branch and Mrs. Andrew. Seeing that some two hundred members had intimated their intention of being present at the meeting, it was not surprising to find a good number, including many ladies, present at the Reception. Mr. G. M. P. Murray, the Hon. Secretary of the General Purposes Committee, and the members of the Reception Committee were indefatigable in their efforts on behalf of the visitors, with the result that a very pleasant evening was spent, rendered still more enjoyable by a delightful programme of vocal music, given by Mrs. G. M. P. Murray, Mrs. Pakenham and Miss Corry-Sandy, and Mr. Cautrell and Mr. Rogers.

TUESDAY, AUGUST 17.

Meeting of the Representative Board.

A meeting of the Representative Board was held in the Materia Medica Theatre, School of Physics, on the morning of Tuesday, August 17.

The following members were present :—Messrs. J. Ackery, Storer Bennett, W. H. Dolamore, W. Rushton, Lawrence Read, J. Smith Turner, W. Hern, Treasurer, and W. B. Paterson, Hon. Secretary (London); J. J. Andrew (Belfast); J. A. Biggs (Glasgow); W. E. Harding (Shrewsbury); W. Helyar (Clifton); F. W. Richards and A. T. Hilder (Birmingham); Morgan Hughes (Croydon); R. P. Lennox (Cambridge); H. B. Mason (Exeter); G. M. P. Murray (Dublin); I. Renshaw (Rochdale).

In the absence of the President and Vice-President—the former having suffered a sad domestic bereavement and the latter being in ill-health—Mr. SMITH TURNER presided.

The HON. SECRETARY (Mr. W. B. Paterson) read the Minutes, which were confirmed.

Letters regretting inability to attend were received from Dr. John Smith, J. S. Amoore (Edinburgh); J. T. Browne-Mason, T. A. Goard (Exeter); Rees Price (Glasgow); G. Cunningham (Cambridge); A. A. Matthews (Bradford); H. R. F. Brooks (Banbury) and W. H. Breward Neale (Birmingham).

TREASURER'S REPORT.

The HON. TREASURER (Mr. W. Hern) read his report, and stated that it would be seen from the Balance Sheet that the suggestion for printing the various items of the previous year in a parallel column had been adopted.

Mr. Harding moved "That the report of the Hon. Treasurer be recommended by the Representative Board to the general meeting."

Mr. Helyar seconded the motion, which was agreed to.

Secretary's Report.

The Hon. Secretary read his report.

On the motion of Mr. Andrew, seconded by Mr. Biggs, the report was adopted and referred to the general meeting.

Report of Schools Committee.

The report of the Committee was read by Mr. Paterson in the absence of Mr. Cunningham, the Hon. Sec. of the Committee.

The Chairman said the report was not a very rosy one to listen to, but it had its redeeming features.

On the motion of Mr. Harding, seconded by Mr. Richards, it was resolved to recommend the report to the general meeting.

Election of Vice-President.

The Chairman said he was very sorry to hear that Mr. Breward Neale was suffering, and unable to be present. It had at one time been the habit to propose as Vice-President of the Board a London man, but that was objected to by certain gentlemen, and a provincial man had been elected. Mr. Neale had not raised any objection to his re-election, and there was no reason why he should not be re-elected, for there could be only one opinion as to his ability.

Mr. Biggs asked if there was any probability of Mr. Neale's health being restored sufficiently to enable him to carry out the duties of office.

The Hon. Secretary said he believed the illness was not a permanent one, and it was hoped Mr. Neale would soon be well again.

Mr. Richards said Mr. Neale's illness was only temporary.

Mr. Harding proposed the re-election of Mr. Breward Neale as Vice-President of the Representative Board; and the proposition having been seconded by Mr. Biggs, was carried unanimously.

ANNUAL MEETING, 1898.

The HON. SECRETARY reported that he had received, through the Hon. Secretary of the Western Counties Branch, an invitation from that Branch to meet in Bath next year. It was suggested that Mr. W. A. Hunt of Yeovil should be the President, and also that the time of meeting should be altered, viz., that instead of August either May or June, or July should be the time of meeting. Doubtless Mr. H. B. Mason, President of the Western Counties Branch, who was present, might have something to say on the subject.

Mr. MASON said the reason for suggesting that the meeting should not be held in August was simply owing to the fact that Bath was not a desirable place at that time of year. He thought that anyone who went there in August would not care to go again. At that time, also, the season was over. The general opinion of the members of the Western Counties Branch was that if the meeting could be held about the time of the Branch Annual Meeting, *i.e.*, not later than the third week in July, it would be most convenient. Mr. E. L. Dudley, of Bath, would do everything he could to make the meeting a success, and the Mayor of Bath for the year would, it was hoped, be prepared to give the Association an official reception, which he thought was a desirable thing.

The HON. SECRETARY said he had just received a reply from Mr. Dudley, in which Mr. Dudley agreed that the Assembly Rooms at Bath would be the best place for the meeting. There was plenty of room there, but a long notice was required; Mr. Dudley also agreed that the Pump Room Hotel was the best place for social headquarters.

Mr. H. B. MASON said he was sure that Mr. Hunt and Mr. Dudley would do all in their power to make the meeting a success. The Association had already met at Plymouth and Exeter, and Bath seemed to be as good a place as any in the Southern district.

On the motion of Mr. MORGAN HUGHES, seconded by Mr. RENSHAW, it was resolved that the general meeting should be recommended to accept the invitation.

ELECTION OF PRESIDENT.

The CHAIRMAN pointed out that it had been suggested that Mr. Hunt of Yeovil, a very old and esteemed member of the

Association and a very excellent man, should be invited to the Presidential Chair.

Mr. H. B. Mason said he had very great pleasure in proposing that Mr. W. A. Hunt should be nominated as President of the Association for 1898-99. He was sure that amongst the members of the Western Counties Branch there was no one who would fill the post with more credit than Mr. Hunt.

Mr. Helyar seconded the proposition, which was carried with acclamation.

Time of Meeting.

The Hon. Secretary thought that Easter was not a good time to hold the meeting. Two meetings had been held at Easter, and the weather had in both cases been exceptionally favourable, but such weather could not be depended upon. It would also be rather hard on Dr. Stack to ask him to travel at a treacherous season like Easter. As the Western Branch thought that Bath was at its best in May or June, or the early part of July, it would be well perhaps to think of Whitsuntide. He was informed Whitsun was a general holiday in the North, and would suit the Northern men; and he thought it would also suit the Southern men. It might be left to the Board to fix the actual dates in conjunction with the Western Counties Branch. If held at Whitsun they might go down on Friday before Whit-Monday, the Bank Holiday, and hold the meeting on Saturday, May 28, Whit-Monday, 30th, and Tuesday, 31st.

Mr. H. B. Mason thought that any date would suit the Western Branch, except August or the last week in July.

Mr. J. J. Andrew, speaking for Irish members, considered Whitsuntide a very good time for the meeting, and proposed that the meeting should be held in the Whitsuntide holidays, the exact date to be fixed later.

Mr. Harding seconded the motion, which was unanimously agreed to.

Amendment of Dentists Act.

The Hon. Secretary said the Board had now to consider the question of the Amendment of the Dentists Act. The matter was one which could not be allowed to travel beyond the Board meeting room, and therefore any statement of his or any discussion that might occur would not be reported, and the matter would not be submitted to the Annual General Meeting.

After hearing a full statement of the case from the Hon. Secretary, the Board unanimously decided to refer the question to the Business Committee, to be dealt with in detail by them.

Other matters of business having been transacted and members elected to the Association, the Board adjourned.

The General Meeting.

The general meeting was held in the Anatomical Theatre on Tuesday morning, Mr. F. Canton occupying the chair.

The first business of the meeting was the delivery by the retiring President of his valedictory address.*

In vacating the chair Mr. CANTON, addressing Dr. Stack, said: In asking you to take my place I am sure that I am only expressing the desire of the whole meeting that you may have a most prosperous year of office.

The PRESIDENT then took the chair vacated by Mr. Canton.

Mr. G. M. P. MURRAY proposed a cordial vote of thanks to Mr. Canton for his address on retiring from the position of President of the British Dental Association, a post which he had so admirably occupied.

Mr. J. A. BIGGS seconded the motion, which was carried with acclamation.

Mr. CANTON thanked the members for their very kind and cordial reception of the resolution.

REPORT OF TREASURER.

The HON. TREASURER (Mr. W. Hern) then read the following Report :—

Mr. PRESIDENT AND GENTLEMEN.—In presenting to you my report for the past year, I have to thank you for the confidence you have reposed in me, as well as for the high honour conferred on me in electing me to such an important office in the Association, and I wish to assure you that so long as I hold the office I will endeavour to perform the duties to the benefit of the Association.

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* Printed as an Original Communication.

The financial position of the Association is, I am happy to report, a satisfactory one.

Our Reserve Fund amounts to £800, £600 of which is invested in Indian 3½ per cent. Stock, and £200 is on deposit at the bank.

The balance on current account now stands at £430 10s. 7d.

It is my desire to add to the Reserve Fund at the earliest opportunity. A sum of £1,000 is, in my opinion, not too large a reserve of strength for such an Association as ours.

My excellent predecessor, in his report last year, hoped his successor would soon be able to add to the sum invested, but he was unaware at that time that the bill of costs for law expenses, which was running up, would amount to more than three times that of the previous year. Gentlemen, we cannot "eat our cake and yet reserve it for another meal." I hope, therefore, that our appetites in this direction will not be so marked during the current year, so that I may have the pleasure of reporting, on another occasion, that the reserve fund has reached four figures.

The amount of income over expenditure for the year amounts to £35 15s. 10d. ; this, I think, is satisfactory taken in conjunction with the fact that a sum of over £200 more has been spent in law than last year ; this large outlay for legal expenses has resulted in a deficit of about £5 on the general account.

The legal expenses are the heaviest incurred in the history of the Association, and show an increase on 1895 both in the number of cases as well as in the cost per case ; some of the cases, however, were commenced in 1895.

The Journal, which began to pay its way in 1895 with a surplus of £14, continues to improve its position, and this year shows a surplus of £41 ; this, too, notwithstanding 700 more Journals were printed, and that a larger sum has been expended for blocks, plates, &c. I am hopeful that this upward progress will continue, and that the Journal will prove itself a valuable asset of the Association.

During the past year we have added to our roll 80 new members, and we have lost 10 by resignation or death and 10 by non-payment of subscription. The membership of the latter I trust we may consider as merely suspended, and that I shall soon receive the cheques for arrears and have the pleasure of reinstating them on our list. Our total numbers now stand at 997—an increase of 60 as compared with last year. Of the total, 40 are in arrears with their subscriptions for two years, and 239 for one year. This condition is hardly creditable to the business qualities of a number of our members, and makes one wonder whether some other method of reminder could be devised than the gentle hint conveyed by the pink slip in the Journal and the more direct series of postal circulars devised by my predecessors. I should be glad of any practical suggestions which could be adopted to remind members of their obligations to the Association and lead them to discharge them more promptly.

As the future is with the young, it is to the rising generation of educated men to whom we look in the future for carrying on the work of the Association. I venture to think, therefore, that some effort might be made by the Association to bring into the fold in larger numbers the young men leaving the different Dental Hospitals and Schools of the kingdom ; the result, it seems to me, would be like the works of mercy, twice blest, advantageous alike to the Association and to the new member.

Mr. SMITH TURNER moved the adoption of the Report. He suggested that some consideration should be given to the last paragraph of the Report, as to the methods to be adopted in impressing upon the younger members the responsibility of membership of the Association.

Mr. SHERLOCK seconded the motion.

Mr. J. A. BIGGS suggested that postal orders should be obtained with the names of the members written in, and sent on, desiring them to send their subscriptions by return of post. It was well understood that applications came to them when they were busy with engagements of one kind and another, and that things got laid aside and were forgotten.

Mr. WILLIAM SHILLINGLAW thought the adoption of the first week in January as the time for sending in subscriptions would meet the case. He made it a point to send off all his subscriptions in the first week in January to the various Associations he was connected with. He suggested that other members should follow his example, and then the Treasurer would have very little trouble.

Mr. C. CUNNINGHAM said that as a member of the parent society and of the Irish Branch, he found it sometimes a little difficult to send the subscriptions separately. It was easy to draw a cheque for a guinea, but it was a troublesome matter to send down to the town for a postal order for 5s. or 6s. He thought if it could be arranged that one cheque could be drawn for the whole amount and sent in to the Treasurer of the parent society or the branch it would facilitate matters.

The HON. TREASURER said he would much prefer if members would send in their subscription to the Association by itself. To send both the Association and branch subscriptions would increase his work a great deal, and make great confusion in the books of the Association.

The resolution for the adoption of the Report was agreed to.

REPORT OF SECRETARY.

The HON. SECRETARY read the following Report :—

MR. PRESIDENT AND GENTLEMEN,—In presenting to you the 17th Annual Report of the Hon. Secretary of the British Dental Association, I cannot lay claim to the dignity of a "Jubilee" or record Report. Still it may safely be said that our Association has not been idle during the year that has passed, and the report which I now have the honour of laying before you will, I hope, confirm this statement. Our Association has, in common with many other similar societies, whose head-quarters are in London, suffered from the all-pervading distractions of the festival which has come and gone ; hence, when I say that the statutory number of Representative Board meetings has fallen short by one you will hardly be surprised. That there was another influence of a different character affecting our arrangements need only be mentioned by me to enlist your sympathies—I allude to the sad loss suffered by the President of the Representative Board. There is this, however, to be said, that your President and Hon. Secretary have always the power to call a meeting of the Business Committee when necessity arises.

With regard to the prosecutions undertaken to maintain the spirit and provisions of the Dentists Act, the number of cases during the past year has been in excess of any previous year, and as a consequence, the results have not been quite of the same uniformity, although, on the whole, we have fair reason to be satisfied. Those undertaken by the Executive of the Association were in continuance of their policy of obtaining decisions on certain phases of the Dentists Act, and as legal details of the cases have been fully set out in the pages of the Journal of the Association, it is unnecessary to extend this Report by recapitulation. Proceeding on the powers conferred by the Medical Amendments Act of 1886, a considerable number of prosecutions have been instituted by combinations of dentists, acting independently of the Executive of the British Dental Association. These cases have also been reported in detail in the columns of the Journal. It is gratifying to observe that in many of the cases convictions were obtained, and in the failures, a closer observance of the methods of procedure adopted by the British Dental Association might have been followed by better results. But, as the cases of the British Dental Association and other bodies numbered no less than twenty-seven, it would be unreasonable to expect victory all along the line.

In addition to the foregoing, some twenty minor cases have engaged the attention of the Business Committee. In some, warning letters have been sent and further proceedings have been unnecessary. In others, our legal advisers have found the evidence tendered or obtainable insufficient. In only one instance have our laws against members of the Association advertising been put in operation.

It will be within the recollection of members that the following Resolution of the Western Counties Branch was under discussion at the last Annual General Meeting, viz., "That the Representative Branches of the British Dental Association be invited by this Branch to encourage and assist in the formation of local centres for the purpose of more efficiently carrying out the provisions of the Dentists Act." The matter was referred to the Representative Board, and after due consideration the Board passed the following Resolution :—

"That as the law provides that prosecutions 'may be undertaken by private individuals,' the Representative Board cannot go beyond its functions in urging either private individuals or local associations to act as prosecutors. The Representative Board is, however, anxious to impress upon all members of the British Dental Association that the President of the Board and the Hon. Secretary of the Association are always ready to give every information on any case brought before them, such as the advice of the lawyers of the Association may direct."

This Resolution was duly forwarded to the Hon. Secretary of the Western Counties Branch, and was also published in the Journal of the Association.

The Business Committee has been engaged in correspondence with the Editor of the *Chemist and Druggist*, a trade journal of extensive circulation. The Editor was anxious that we should undertake a friendly case to test the supposed rights of chemists to practise as dentists, but as we were so far satisfied with our legal position, we had no inducement to respond to his challenge ; and the subsequent decision in the case of the British Dental Association *v.* Jackson, a chemist, justified the position of the Committee.

The Medical Council had under consideration a case of "covering" that was alluded to in the Hon. Secretary's Report of last year. The Council was satisfied that our complaint was fully established, but in accordance with their invariably lenient policy in first offences they simply administered an admonition, as it was the first dental case brought before them under their recent declaration on the offence of "covering."

In the case of the Queen *v.* Spero, which was really a case against the Medical Council, the solicitors of the Association thought it necessary to instruct Counsel to be present on our behalf. The trial was fully reported in the daily papers, and also in our Journal. It is satisfactory to note that the action of the Medical Council in refusing registration to a certain class of applicants was fully sustained by the Court of Queen's Bench and the Court of Appeal. An application for registration from a colonial practitioner was also refused by the Privy Council, who thereby endorsed the action of the Medical Council.

The Reports of Mr. Charles Tomes, the Inspector of Dental Examinations to the Medical Council, appointed at the instance of the British Dental Association, are still *sub judice*, and we await with interest the result of their consideration by the various licensing bodies to whom they have been referred.

The delegates appointed by the Representative Board to meet the various bodies interested in the Companies' Bill have to report that the Bill is at present in abeyance, but in the event of its re-introduction a clause by way of amendment is in the hands of Lord Herschell, which, if adopted, may meet the necessities of our case.

The desire, reasonably expressed by many members of the Association, for an amendment of the Dentists Act has not been lost sight of by your Executive, and we hope that at our next annual meeting to be able to report something definite on the matter. Such business, however, must be conducted with an amount of circumspection which precludes any detailed account in a report of this nature. It is hoped that if the members of the Association should be called upon to act in furtherance of this object they will do so loyally and promptly at the request of the Executive.

With regard to the working of the new Bye-laws relating to the election of Representatives to the Representative Board, passed at the last Annual Meeting, the result will be announced from the Chair.

So far as the Branches are concerned they have appointed their representatives, but the interest of the Association in elections seems to have fallen off, and as a consequence, I have only received nominations sufficient to fill the vacancies that have occurred in the ordinary course of events.

I have to report that the resolution passed at the last Annual Meeting, calling the attention of Boards of Guardians and other authorities to the question of the care of the teeth of children of the wage-earning classes, was sent to the President of the Local Government Board, and a formal acknowledgment of it received.

As your Hon. Secretary I have more than usual pleasure in making this report at a meeting in the city of Dublin, as I feel assured that the generous instincts of Irishmen will carry the Association with them in appreciating whatever the executive may have tried to do for the welfare of the Association and the profession at large.

W. B. PATERSON.

On the motion of Mr. M'CALLUM SMITH, seconded by Mr. P. O'MEEHAN, the Report was adopted.

ANNUAL MEETING, 1898.

The HON. SECRETARY read the Report of the Representative Board, which recommended (1) that the invitation to Bath from the Western Counties Branch be accepted;

(2) that the date recommended by the Western Counties Branch, viz., at Whitsuntide, be accepted; and (3) that Mr. W. A. Hunt, M.R.C.S., L.D.S., of Yeovil, be President.

Mr. Somerville-Woodiwis moved the adoption of the Report. He was not quite in favour of the meeting being held at Whitsuntide, but he thought if a Branch sent an invitation it was for that Branch to decide the time, because they would have to accommodate a large number of gentlemen.

Mr. J. J. Andrew seconded the motion.

Mr. H. B. Mason (Western Counties Branch) said the Western Counties Branch would be very happy indeed to receive the members next year, and he was quite sure no better man could be found for President than Mr. Hunt. The only question was as to the date of the meeting. The feeling of the Western Branch was very decidedly against holding a meeting in Bath in August. August was a very hot month there, and anyone who went there in August would not care to go there a second time. The Branch usually held its annual meeting about the third week in July, and it was thought that no meeting should be held later than that. He might say, on behalf of the Branch, that any date prior to August the Association thought fit to adopt—at any rate between the early part of May and the third week in July—would be quite acceptable.

The Report was adopted.

Mr. J. Smith Turner thought the election of President of the Association was a matter of some importance, and that it was only respectful to the gentleman who was elected that a special resolution should be passed by the meeting electing him, and not that it should be passed connected with other matters that did not quite bear upon his election. He had therefore much pleasure in proposing that Mr. W. A. Hunt, of Yeovil, should be elected as President of the Association for the next year.

Mr. William Headridge seconded the motion, which was carried with acclamation.

The President said he was personally delighted to hear that they were going to have Mr. Hunt as their President in the following year. The Hon. Secretary would convey to Mr. Hunt an intimation of his election.

ELECTION OF MEMBERS TO THE REPRESENTATIVE BOARD.

The HON. SECRETARY said the following gentlemen had been nominated for vacancies on the Representative Board:—W. H. Breward Neale (Birmingham); H. Biging Mason (Exeter); J. C. Storey (Hull); G. Brunton (Leeds); J. Ackery, W. H. Coffin, S. J. Hutchinson, C. Robbins (London); G. G. Campion (Manchester); Lawrence Read (Newbury).

There were only ten vacancies, and only ten nominations had been received, and therefore the usual ballot had not taken place.

The PRESIDENT said as there were only ten nominations to fill the ten vacancies it would be a waste of time to have a ballot. With the permission of the meeting he asked that the gentlemen nominated should fill the vacancies on the Representative Board, and that the election should be considered valid.

Agreed to.

Mr. WEST said it was rather an unhealthy sign when elections went by default. It was always far better that there should be some sort of competition. He thought the reason there had been only ten nominations was not because there had been any lack of enthusiasm on the part of London or provincial men in sending up names, but simply from the difficulty of getting nominators. He suggested that the Representative Board should take the matter into consideration, and see if it were not practicable to reduce the number of nominators.

REPORT OF SCHOOLS COMMITTEE.

The HON. SECRETARY read the following Report:—

The Secretary of this Committee has been, by a higher duty, called to Moscow, and has left no clear report behind him. The Hon. Secretary of the Association, under these circumstances, called a meeting of the Committee for Monday, the 16th inst., at which only three members appeared. From the information within our grasp it clearly appears that the system of gathering statistics adopted by the Committee has proved a failure, and that if we are to carry out the work so auspiciously begun a few years ago, the amount of information required from the compilers must be very much modified. Since the present system was adopted the number of reports sent in to the Secretary of the Committee has dwindled to *nil*, suggesting that there must be general supineness on the part of the gentlemen who have been appointed as dentists to various public institutions, or that the work required of them by the Association is too onerous.

It may be well to remind the members of the British Dental Association that when the Committee was established its objects were defined as follows:—

"That it was necessary to show, by means of reliable statistics, the amount of dental disease existing amongst children, and thereby to demonstrate the necessity of some adequate provision being made to meet the evil; and also to provide sufficient evidence to convince those in authority that in giving attention to these matters they would be acting in the interests of the public at large, as well as in those of the children themselves."

"The examination of the teeth of school children in a number of schools (mainly reformatories, industrial schools, training ships, orphanages, national and board schools, and the like) throughout the country is now being conducted by dental practitioners approved by the Committee of the British Dental Association, in order to obtain statistics for the following purposes:—(1) to acquire a more exact knowledge of the condition of children's teeth at various ages; (2) to show, by means of the data thus acquired, the disabilities under which children frequently suffer in their growth and development, and the important bearing of those disabilities upon the future health of the individual."

It will therefore be seen from what has been said that the Committee has failed in this the primary object of its existence. It has not, however, failed in arousing more or less attention to the subject in quarters from which it has hitherto had no value whatever.

There can be no doubt but that the number of dental appointments made since first Mr. Fisher, of Dundee, opened up the question some years ago (and was followed closely by the British Dental Association) have been multiplied many times, and that but for the movement thus begun these appointments would never have been made. It is gratifying to be able to quote to the meeting extracts from a letter received by the Hon. Secretary of the Association from the Captain of the *Exmouth* training ship. He reports that he is perfectly satisfied with the appointment of a dental surgeon to the ship, that he has now no complaints of "toothache" from the boys, and that he passes his boys into the Navy with greater ease than before. On the other hand the Metropolitan Asylums Board is so satisfied that it has continued to fill the appointment annually.

The dental records of the Masonic School of Ireland afford valuable statistical information, and will, no doubt, become extremely useful if kept up to their present standard; but as the method of classification and registration adopted is not in unison with that of your Committee, the statistics cannot, in the meantime, be made available for the purposes of this Report.

It may be within your recollection that at our last General Meeting a resolution was formulated to be sent to the President of the Local Government Board, viz.:—"That the British Dental Association regrets that there is no mention of teeth or dentistry in the recent report of the Departmental Committee of the Local Government Board on Poor Law Schools, although its attention had been called to the matter by statistics and by the evidence of a Local Government Board inspector; that this Association is strongly of opinion that the importance of the care of children's teeth, especially those of the wage-earning classes and the poor, should receive immediate attention by the Boards of Guardians and other authorities; and further, that all such school dental appointments should be made on similar lines to those regulating medical appointments, and therefore subject to inspection by the Local Government Board."

This resolution was sent accordingly, but has not elicited any reply beyond formal acknowledgment.

The Committee has worked to the best of its ability and in an entirely new field of enterprise, and it now becomes a question how far the Representative Board may be instructed to suggest to the Schools Committee some modification of its statistical system.

(*Signed*) F. Canton, *President*, *B.D.A.*
J. Smith Turner, *Vice-President.*
W. B. Paterson, *Hon. Secretary*, *B.D.A.*

August 16, 1897.

The PRESIDENT said that as the Rev. Dr. Haughton was just coming in he wished to exercise his right and adjourn the business of the meeting until Thursday.

The Rev. Dr. Samuel Haughton, accompanied by Sir John Banks, K.C.B., here entered the room, and were received with cheering.

The Rev. Dr. HAUGHTON said he had received instructions from Dr. Salmon, the Provost, who was enjoying a well-earned holiday in Switzerland, to attend and represent him on that occasion. He was sorry the Provost was not there himself, but he had asked him to express his and the whole of Trinity College's welcome to the British Dental Association. The Provost had welcomed the Association on a former occasion, and had had a very pleasant and happy time of it. It afforded him (Dr. Haughton) personally great gratification to represent the Provost on that occasion as the head of an ancient college. But as he thought he might break down in discharging that laborious duty he caught that morning a big fish—he landed the head of the Medical School. Sir John Banks was not at all unwilling to be seized upon and hurried there to assist him in bidding the British Dental Association a most hearty welcome.

Sir JOHN BANKS, K.C.B., said it afforded him the greatest possible pleasure to join his friend the Provost of the ancient University, in bidding the Association a hearty welcome. It also afforded him the greatest pleasure to see his dear and honoured friend as President, and of seeing his dear friends Moore and Corbett and others.

Mr. J. SMITH TURNER, on behalf of the President, said it afforded him a great amount of pleasure to respond to the generous welcome they had received from Dr. Haughton and Sir John Banks. He well remembered nine years ago the urbanity and geniality of Dr. Haughton, when the Association was received by that great university at the Annual Meeting in Dublin, when the Chair was occupied by their esteemed colleague, Mr. Corbett. He was pleased and gratified at the way in which they were received, but he was not surprised, because he remembered very well that they did nothing to forfeit the esteem of the authorities of Trinity College, and he hoped that at the present meeting they would also be on their good behaviour. It was a great pleasure also to be received by two gentlemen who had served upon the Medical Council, for it gave an opportunity of thanking them for the friendly feeling they had always shown to the dental profession. They had been amongst those who had helped them when they had few friends, and it was a great pleasure to see them present to help them when their friends had multiplied, and when their numbers and strength had increased. In the name of the British Dental Association, he asked Dr. Haughton and Sir John Banks, as representatives of the Irish University, to accept their heart-felt thanks for the welcome they had given them that day.

The PRESIDENT then delivered his inaugural address.*

The reading of the address was frequently interrupted by the applause of members present, and at its conclusion

Mr. D. CORBETT moved a vote of thanks to the President for his excellent address. He said he felt that if he had Demosthenic power he could say nothing which would exalt in the estimation of the members the character of the President. His untiring zeal, his indomitable energy had been the means of exalting what now was a dignified, a useful, and a recognised profession from what it was in early days. He (Mr. Corbett) recollected when he was almost ashamed to acknowledge himself a dentist, so low was the status and so disreputable were the practices then adopted. Of course, there were exceptional cases, where, in spite of all the surroundings, men adhered to the dignified and noble conduct which would ever and always influence professional men. In the address which the members had heard there was evidence of an extraordinary amount of ability and genius and literary power; and for such they must acknowledge their debt of gratitude to their worthy President. Their President had had a distinguished career, and to his indomitable energy and perseverance they owed the success and the present proud position which the profession enjoyed.

Mr. ROBERT MOORE said he was happy to be called upon to second the motion, which had been so eloquently put before the members.

The motion was put by Dr. HAUGHTON, and carried with acclamation.

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* Printed as an Original Communication.

The President, in responding, said he did not catch everything that was said, but he knew it was all very kind, and he thanked them all very much for the enthusiasm with which they were kind enough to receive his address.

Mr. Smith Turner said he knew what it was to occupy office in the Association, and sometimes one felt, if one's efforts had not been acknowledged, that they had not been worthy the strength and time expended upon them. They had had a very excellent President during the past year, and he had delivered an address that morning, and he hoped that the members would not leave the room without according to Mr. Canton a hearty vote of thanks for his address and for the way in which he had filled the chair during the past year.

The motion was carried with acclamation.

Mr. F. Canton briefly thanked the members for the vote.

[The remainder of the sitting was devoted to the reading and discussion of papers, the report of which will appear in the Journal in due course.]

Dinner to the Representative Board.

On Tuesday evening the Representative Board was entertained at a Dinner given by the Entertainment Committee of the Irish Dental Fellows and Licentiates, in the Albert Hall, of the Royal College of Surgeons. Mr. Robert H. Moore, F.R.C.S.I., occupied the chair, and was supported by the following gentlemen:—Sir Wm. Thomson, President of the Royal College of Surgeons; Mr. J. S. Turner; Mr. F. Canton; Mr. W. J. Wheeler, F.R.C.S.; Mr. A. H. Jacob, F.R.C.S.; Mr. T. T. Henston, F.R.C.S.; Mr. G. M. P. Murray, F.R.C.S.; Sir Charles Cameron, F.R.C.S.; Mr. D. Corbett, Jun., F.R.C.S.I.; and Mr. G. F. Blake, Registrar of the College. The following members of the Representative Board were present:—Dr. Stack, Dr. A. W. W. Baker, Messrs. L. Read, W. Hern, W. Harding, R. P. Lennox, F. W. Richards, W. Helyar, W. Rushton, A. T. Hilder, J. J. Andrew, J. Ackery, C. Cunningham, J. A. Biggs, A. Hopewell-Smith, Storer Bennett, W. H. Dolamore, D. Bailie Wilson, Morgan Hughes, D. Corbett, and Mr. W. B. Paterson, Hon. Sec. There were also present Messrs. L. Egan, J. M'Adam, J. J.

Saunders, W. Harrison, W. Burt, C. Stokes, H. Brooks, J. S. Tucker, F. O. Stoker, R. Edwards, S. Woodiwis, T. Studley, W. Routledge, C. West, J. F. Apperson, C. Birch, W. Taylor, V. Doyle, Murray-Thompson, C. E. Boyce, M. O'Sullivan, P. O'Meehan, J. Stanton, K. E. O'Duffy, E. Lloyd-Williams, G. J. Goldie, W. D. Anderson, E. S. Angle, S. J. Bishop, F. J. Bennett, Dencer Whittles, H. G. Sherlock, W. G. Storey, Dr. M'Cullum Smith, W. Elwood, S. G. Reeves, A. Jones, G. Moore, J. Hayden, J. S. Thomson, Herbert Williams, and Mr. W. B. Bacon.

The toast of the "Representative Board" was proposed by Mr. F. Canton, who said that as it was but a few hours since he ceased to be a member of the Board, he felt it was rather like proposing his own health.

After referring with regret to the absence of Mr. J. H. Mummery and Mr. Breward Neale, he said the Representative Board was a very much abused body. It was always doing the opposite to what it ought to do, and the only wonder was that it existed; but not only did it still exist but it had been made a larger and more ponderous body than it was before. It was an old saying that a Committee of three with two absent was the best Committee that could possibly be obtained. There was no doubt that the Representative Board was a most valuable body, and it worked honestly in the interests of the Association. No doubt it did not move as quickly as many people would wish, but he recommended those gentlemen who thought it did not go as quickly as it should to join the Board at the first opportunity, because that was the only way to get an idea of its work. It could not be judged by what was published, because the Board could not publish everything that transpired at its meetings. The Business Committee was a body that did an enormous amount of work, and was of immense assistance to the Board. He coupled with the toast the name of Mr. Smith Turner, a gentleman whose presence on the Board was invaluable.

The toast was drunk with enthusiasm.

Mr. Smith Turner, on rising to respond, was received with a burst of cheering. He referred to the fact that in one capacity or another he had been a member of the Board since it was formed. He looked, he said, upon the criticisms that were sometimes levelled at the Representative Board rather as compliments for what it did than as depreciations of it. Certainly, as a member of the Board, he felt that he had done some amount of work for the Association; and he had reason to congratulate himself upon something which he did before the Representative Board was in existence, and that was manœuvring a bit to induce the Royal College of Surgeons in Ireland to grant the Dental Diploma. He thought the Irish College had done right in the way in which it had received dental candidates for its diploma. He believed the College had been requested to change its methods, but he did not think the time had come yet when it could advisedly do so. Perhaps some of its members might think differently, but as an old stager himself, and one who recollected the difficulty there was in getting the College to move in the first instance, he would be sorry to see it change its course of conduct at present. He thought he helped in a good work when he promoted the movement for inducing the College of Surgeons of Ireland to grant a dental diploma, and he thought a proof of it was their gathering together at that dinner. He had been rewarded by being in very good company and by having a very good dinner. In the name of the Representative Board he thanked the Irish licentiates for the way in which they had received the toast, and he thanked the College of Surgeons through whose instrumentality they were assembled in the College that night.

Mr. W. R. BACON proposed "The President and Council of the Royal College of Surgeons of Ireland." On behalf of the Representative Board, he wished to acknowledge the great good that had been done to the dental profession by Sir William Thomson. He hoped that Sir William would use his influence and do all he possibly could for the dental profession, a profession well worthy of every exertion being made to advance its future prosperity and influence.

The toast having been duly honoured,

Sir WILLIAM THOMSON rose, amid cheers, to respond. He said the College, over which he had the honour to preside, had for many years been keenly interested in the profession of dentistry. He could assure those present, having been himself for many years a member of the Dental Committee in connection with the College, that they devoted to the work of that branch of the profession an amount of time and of interest that many were not quite aware of. Their object had been to help the dental profession in their efforts to establish their profession on the highest possible grounds. They had aimed at elevating the character of the examination. But he was sorry to say that the powers which they exercised in those directions—those present would understand what he meant—

were not exercised in other quarters as he thought they ought to be, and until the Medical Council and some of the Licensing Bodies looked upon the misdeeds of members of the dental profession, in what he regarded as the proper light, there would be a great drag upon the elevation at which they were all aiming. He was particularly glad to hear from Mr. Smith Turner his approbation of the character of the work which the College had done, and he was extremely glad to find, from the enthusiasm with which his (Mr. Smith Turner's) remarks had been received, that those present approved of what he had said. It would be still the duty of the College, as it certainly would be the object, to struggle with the dental profession in the direction of elevating that profession. He had been described sometimes as a person who was rather lagging behind on the question of education. He had been connected all his life with medical education, as an examiner or a teacher, and it surprised him somewhat to find that he was described as a very sluggish conservator—a Tory of the worst type. He felt that he was a very radical reformer. What he had always aimed at was to make medical education as high as possible, and make it honest and true. He had no doubt whatever that those who were present as members of the Representative Body of a great profession would attain by hard work the object which they had in view; and, again, all he could say was, that so far as the Royal College of Surgeons of Ireland was concerned, it would help them in every possible way.

Sir William Thomson then proposed the health of Mr. Robert Moore, the chairman, which was received with great applause; and Mr. Moore having briefly responded, the toast list came to an end.

Smoking Concert.

Tuesday was brought to a conclusion by a smoking concert given by the "Odontoblasts" in the gallery of the Dublin Arts Club, St. Stephen's Green. A very large number of members were present, and nearly all those who were at the dinner to the Representative Board, including the Chairman and Sir Wm. Thomson, came over after dinner to the Concert, which was carried well on towards daylight. Cigars and cigarettes were supplied in abundance, and to quench the thirst and clear throats, husky with the atmosphere of tobacco, certain liquids, whisky of course predominating, flowed so freely as to make one almost dread the consequences! The programme was really good. The recitations of Dr. Murray and Mr. Tweedy, given as they were in the richest brogue, provoked roars of laughter; Dr. Haughton, Dr. Hayes, Mr. Rogers and Mr. J. J. Farrall sang a selection of songs, hardly one of which escaped an encore; and the violin solos of Mr. Patrick Delaney were excellently rendered. As an accompanist Mr. C. W. Wilson earned high honour for himself. The members of the Executive, acting as stewards, were indefatigable in their efforts to see that no one lacked aught that would tend to make as enjoyable an evening as a man could possibly spend.

Garden Party.

A pleasant interlude between the serious work of the day and the various functions of the evening was provided by the wives and daughters of the Dublin members forming the Ladies' Committee, on Tuesday afternoon, in the shape of a garden party in the Fellows' Garden of Trinity College. Tea was served in a large marquee erected for the occasion, and the band of the Royal Irish Constabulary performed an excellent programme of music on the lawn. Happily the weather was fine and bright.

WEDNESDAY, AUGUST 18.

The meeting of the Microscopical Section was held in the Anatomical Theatre, School of Physic, when Dr. A. W. W. Baker delivered the opening address. Papers were communicated by Drs. R. Theodore Stack and J. Alfred Scott, F.R.C.S.L.; Messrs. C. S. Tomes, F.R.S.; F. J. Bennett; Storer Bennett; J. Choquet, D.E.D.P. (Paris).

The afternoon was devoted to a Lantern Exhibition. A full account of this section will appear in the November issue.

Conversazione at the Science and Art Museum.

The conversazione given by the President and Mrs. Stack in the Science and Art Museum took place on Wednesday evening. Fully a thousand invitations were issued, and judging by the stream of guests which flowed past the host and hostess in the central court during the evening very few failed to be present. The scene was a most brilliant and animated one. The pretty little theatre—a model of what a lecture-hall should be—of the Museum was filled with an audience attracted by an exhibition of the cinematographe. The band of the Fourth Battalion Rifle Brigade performed an agreeable selection of music in the north gallery of the building.

The gathering was undoubtedly one of the most brilliant and successful social functions ever held in connection with the Association meetings.

THURSDAY, AUGUST 19.

Meeting of the Dental Benevolent Fund.

The Annual Meeting of subscribers and friends of the Dental Benevolent Fund was held in the Anatomical Theatre of the School of Physic on Thursday morning. Mr. J. Smith Turner presided.

The minutes of the last meeting having been read and confirmed,

The Hon. Secretary (Mr. J. Ackery) reported that the Committee had taken into consideration the idea of enlisting the sympathies of and making use of ladies in furthering the interest of the fund, and the conclusion arrived at was that it was undesirable to place ladies in any sort of official position, but that in many ways they could be of assistance in aiding the Secretary in investigating cases and in looking after the women and children who were under the care of the fund. One such opportunity had occurred during the past year, and he was pleased to say that when help had been asked it had been readily given, and had proved of great assistance.

The following Report of the Hon. Treasurer (Mr. A. J. Woodhouse), for the year 1896, was read :—

Gentlemen,—I am happy in giving my Report of the Benevolent Fund of the British Dental Association for 1896, to state that in every respect its progress has been satisfactory, as you will judge by the following analysis of the appended Balance Sheet.

Our gross income is greater than in the preceding year by £61 17s. 11d., this being made up by an increase in the subscriptions of £30 10s., and in the donations and collections of £31 7s. 11d. This indicates that the members of our profession are becoming more alive to the benefits conferred by the Benevolent Fund.

I am glad to state that though your Committee assisted all appli-

INCOME AND EXPENDITURE FOR THE YEAR ENDED DECEMBER 31, 1896.

Receipts.	£	s.	d.	£	s.	d.
To Donations and Collections ...				108	18	9
,, Subscriptions for 1894	2	2	0			
,, ,, 1895	13	2	6			
,, ,, 1896	402	14	6			
,, ,, 1897	8	8	0			
				426	7	0
,, Interest on Consols				34	4	0
				£569	9	9

Expenses.	£	s.	d.	£	s.	d.
By Benevolent Allowances:						
Payments for 1895	11	18	8			
,, 1896	318	1	4			
				330	0	0
,, Stationery and Printing... ...				5	16	0
,, Postages and Sundries				7	19	6
				343	15	6
,, Surplus Balance—carried down				225	14	3
				£569	9	9

BALANCE SHEET, 1ST JANUARY, 1897.

Liabilities.	£	s.	d.
To Accumulated Funds:			
Balance from last account	1,541	3	9
Surplus brought down	225	14	3
	£1,766	18	0

Assets.	£	s.	d.
By Investment in Consols	1,506	7	3
,, Cash at Bank of England, Western Branch ...	230	10	9
,, Cash in hands of Honorary Secretary	30	0	0
	£1,766	18	0

April 27th, 1897.—We have written up the above Accounts from the Books and Vouchers of the Benevolent Fund of the British Dental Association, and certify them to be correct. We have also seen the Certificates for the amount of Investments.

(Signed) J. W. BUTCHER & CO., *Chartered Accountants*, 18, *Bishop's Road, W.*
CLAUDIUS J. ASH,
CORNELIUS ROBBINS, } *Hon. Auditors.*
STORER BENNETT,

cants whose cases, after careful investigation, were deemed worthy of help, the benevolent allowances were less by £75 than in 1895. Your Hon. Secretary, in his report, will doubtless give you reasons for this lessened expenditure.

With the increase of income and reduced outgoings your Committee have been able to advise the investment of £200, which has been done, thus swelling our accumulated fund to £1,506, the interest on which is nearly sufficient to support and educate two children a year.

Although you have thus seen that in the past year our funds have been more than sufficient to meet all calls, I trust you will not relax your interest in, and your efforts for, the Benevolent Fund; for more anxious times are sure to come, and it is our duty to prepare for them while we have the opportunity.

Trusting, gentlemen, that the above report has been satisfactory to you, and that you will continue your confidence in the management by your Committee of the funds you commit to their care,

Believe me, Gentlemen, yours very faithfully,

A. J. WOODHOUSE.

The Report was adopted.

The Committee of Management presented their Report as follows :—

GENTLEMEN,—Your Committee beg to submit to the subscribers and contributors to the Benevolent Fund their Fourteenth Annual Report, viz., from June 30, 1896, to June 30, 1897. A list of subscribers, together with this and the Treasurer's Report and Balance Sheet, has been circulated to all contributors, and further copies will be available for distribution amongst non-subscribers through the Local Representatives.

The Local Representative Scheme is now fairly started, and in addition to the Hon. Secs. of Branches, who have all most cordially entered into the work, other gentlemen have been selected as need was felt in large districts. These have all been authorised and appointed by your Committee and are doing good work. By this means at least 40 new annual subscribers have been added to the list, bringing the total up above 400.

Your Committee would take this opportunity of thanking those who have so kindly and materially seconded their efforts, and would point out that though much has been done, there yet remains scope for further increasing the percentage of annual subscribers. It is also satisfactory to note that with this increase of annual subscriptions there is no diminution, but rather an increase, in the amount from Branch Collections.

Several gentlemen were good enough to hand over the surplus due to them from the Entertainment Fund at the last Annual Meeting and as a result the Fund profited to the extent of £32 8s.

Whilst the income of the Fund has been increased, the necessity for disbursements has been less in the past year, and in bringing before you the work done your Committee feel that their report must be somewhat colourless and devoid of striking details. This they regard as a matter for congratulation. There has been an absence of serious new cases involving large families such as from time to time crop up. Coupled with this is the fact that many of our younger protegés have grown up and started upon some employment. Your Committee would not, however, counsel any relaxation of interest or effort on behalf of the Fund, but would simply point to the present position as the result of good work done in the past, and which will in all probability again be called for. Though there are few being educated at the expense of the Fund at the present time, it must be remembered that by the exertions of your Committee in the past there are several children being cared for and educated in asylums, and that our interest in such does not wane because our funds are not being drawn upon.

There are now under our care 18 cases, including in all 31 individuals, viz., 7 dentists, 7 widows, 2 wives, 2 adult orphans, and 13 children, all being cared for at an outlay of £330 for the year. They are all mainly, and some entirely, dependent upon the Fund, and are very thankful for the help afforded. We have now only one child at school, of whom we receive most satisfactory reports. There are two brothers paid for at an orphanage, one of whom will shortly be obliged to leave, and being of somewhat feeble intellect he may probably, for some time at least, be unable to earn his livelihood. Endeavours are being made to secure his admission to a special institution where it is hoped such powers as he possesses may be trained to the greatest advantage.

During the past twelve months only three applications have been received. In one case the applicant could not secure the necessary references, and investigation proved the case to be an undesirable one to take up.

Another was a renewed application from a widow in ill-health, who had been slightly aided in the past, and a small grant is now being made to her.

In a third, a dentist who from illness had been unable to follow his occupation for at least a year, has for the past few months been receiving help. His health has much improved and he is anxious for employment, which it is hoped may shortly be found for him.

In almost all instances the applicants have made a long struggle before appealing for aid. Great care is exercised in the investigation of cases, and your Committee would wish to thank those who have so kindly aided the Hon. Secretary in these delicate matters.

In one case only has it been necessary to call in ladies' aid, but in that instance the assistance asked was most readily granted and was of material help.

Your Committee would take this opportunity of thanking the Publishing Committee of the Journal of the Association for affording space for notices and list of subscribers which are being inserted from time to time. The thanks of the Committee are also due to Messrs. C. J. Ash, Storer Bennett and C. Robbins, who have again so kindly acted as auditors; and to our accountant, Mr. J. W. Butcher, who as in the past has so accurately examined and prepared the accounts.

In accordance with Rule XIX. this Report is now offered for your approval and acceptance.

On the motion of Mr. W. E. Harding, seconded by Mr. West, the report was adopted.

On the motion of the Chairman, Mr. Woodhouse was re-elected Hon. Treasurer of the Association, and Mr. Ackery as Hon. Secretary.

In the place of Mr. W. A. Maggs, who retired by rotation and was ineligible for re-election for a year, Mr. Dennant, of Brighton, was elected to the Committee of Management.

The Hon. Secretary reported that Mr. Storer Bennett, Mr. C. J. Ash, and Mr. C. Robbins, the retiring auditors were willing to serve again; and on the motion of Mr. Bacon, seconded by Mr. L. Read, they were unanimously re-elected.

The Chairman said the only method they had of acknowledging the kindness and zeal of their officers was to publicly thank them, and he begged leave to propose a vote of thanks to the officers of the fund for the way in which they had conducted its business during the year.

Mr. E. Lloyd-Williams seconded the motion, and so took the opportunity of assuring Mr. Ackery that it was no mere conventional vote of thanks. Anyone who knew anything about the Fund knew that the executive had a vast amount of work to do, and it was done in a quiet but very thorough and energetic way. He had had the pleasure of sitting on the Committee, and he did not know that he ever came across any fund that was better distributed and better looked after, and where the officers did their work in a more thorough manner.

The motion was carried with acclamation.

The Chairman, in presenting to Mr. Ackery and his colleague Mr. Woodhouse the thanks of the meeting, said every member echoed the sentiments of Mr. Lloyd-Williams when he said that it was no conventional vote of thanks. Not only had the affairs of the Fund been attended to with considerable activity, but the amount of subscriptions and the number of subscribers had very materially increased, and to a large extent they were indebted for that satisfactory state of things to Mr. Ackery.

Mr. J. Ackery, in reply, thanked the Chairman and Mr. Lloyd-Williams for their kind remarks with regard to the work that had been done. He was sorry Mr. Woodhouse was not present to speak on his own behalf, but it would give him great pleasure to convey to Mr. Woodhouse the enthusiastic manner in which his name had been received. He was quite sure that the work Mr. Woodhouse did was extremely congenial to him. As far as he (Mr. Ackery) was personally concerned, he thought when he said that he was very much moved at the kind way in which his services had been received and appreciated the members would believe that he should be only too glad to continue to do what he could for the Fund. Mr. Lloyd-Williams had spoken of the quiet way in which things were done. It was one of their objects to do things in a quiet way. They did not wish to bring prominently before all the subscribers the exact names and details of the cases of those who were being helped, but to let those who were really in need of help feel that they had in the Committee friends to whom they could appeal with the assurance that their circumstances would be kept entirely to the Committee. The report was certainly not bristling with incidents, but it was satisfactory to note that all the cases under their care were going on well. He might supplement the report with regard to the boy, and say that within the last few days he had been able to secure his admission to a home where such cases were especially cared for.

The Chairman raised the point as to what course should be pursued at the Annual Dinner with regard to the collection. There were sundry objections to it, and he thought they had better be guided by the Committee of Management and by the President. He had just received a notification from the President that he would give ten guineas as his jubilee offering, which seemed to indicate that he did not want the plate sent round.

The Hon. Secretary said that the one or two objections raised at the last annual meeting were not pressed in any way, and that the gentlemen who gave vent to those views quite felt that the majority were in favour of the collection, and agreed that the collection should be made. The collection was made, and amounted to considerably more than on any previous occasion. He had been in communication with the authorities in Dublin, and it was agreed that the form of collection should be adopted which had been made use of during the last two or three years, that was, not that the hat should go round, but that special forms should be placed round the table for promises to be written upon.

Mr. L. Read asked if the Irish Branch wished that the collection should not take place.

The Hon. Secretary said there would be a collection as usual, and the Irish Branch and Irish members were absolutely at one with them and wished it done. He also announced that Messrs. Claudius Ash & Sons had increased their subscription to ten guineas.

Mr. West said the meeting had been an extremely unanimous one, and he did not think there would be one dissentient to his proposition that the best thanks of the meeting be accorded to the Chairman for his business-like way of conducting the meeting. They had known Mr. Smith Turner for a number of years, and they always felt they were in good hands when they were in his.

The motion was carried with acclamation.

The Chairman said their thanks was a sufficient reward to him, besides the satisfaction he felt in having helped along the Benevolent Fund.

The meeting then closed.

Adjourned General Meeting.

The adjourned General Meeting was held on Thursday morning, the President being in the Chair.

Votes of Thanks.

On the motion of the President, seconded by the Hon. Secretary, the following votes of thanks were passed:—

To Sir John Banks, K.C.B., and Lady Banks, for their kind hospitality.

To the Lords and Council of Education for their kindness in granting the use of the Science and Art Museum.

To Prof. Alfred Scott for his valuable paper on "Methods of Colouring Lantern Slides."

To M. Choquet for his admirable paper on "Some Consideration of Various Forms of Leptothrix Buccalis."

To the Council of the Royal Dublin Society for the use of the Theatre on the occasion of the Annual Meeting.

To Sir John Power and Son for their kindness in inviting members to their Distillery.

To the Provost and Senior Fellows of Trinity College for their exceptional kindness in granting the use of the Dining Hall for the Annual Dinner.

To the Provost and Senior Fellows of Trinity College for their kindness in granting the use of the College premises.

To the Committee of the Dental Hospital of Ireland for their kindness in granting the use of the Hospital.

To the President and Council of the Royal College of Surgeons of Ireland for the use of the Albert Hall.

To the President and Fellows of the Royal College of Physicians for their kindness in granting the use of their College.

To Dr. Grevers, of Amsterdam, for his valuable assistance in the Demonstration Section.

To the Readers of Papers and Demonstrators generally.

(At the request of the President, Mr. J. Smith Turner here took the Chair.)

The Chairman said the Schools Report had been read on Tuesday. It consisted more or less of an apology for what had not been done, but it referred with much satisfaction to the record which had been kept of the work of the Masonic School of Ireland and other matters. It was suggested in the Report that it would be well if the Representative Board suggested to the School Committee the propriety of modifying their requirements of those gentlemen who were dental surgeons to various institutions in reference to the amount of information required from them. He believed with the view of facilitating that (should it be so decided) the Secretary had secured a chart from Mr. Pearsall which would very much aid in the work.

On the motion of Mr. Storer Bennett, seconded by Mr. Quinlan, the Report was adopted.

A paper by Mr. Quinlan on "The Conservative Treatment of Exposed and Diseased Pulps as opposed to Extirpation," was then read, but owing to the lack of attendance—only two or three members being present—it could not be discussed.

The CHAIRMAN said they could not close the meeting without thanking the President for his valuable assistance. The Hon. Secretary (Mr. W. B. Paterson) also deserved their warmest thanks for his work.

Mr. F. J. BENNETT said he had much pleasure in proposing a vote of thanks to Dr. Stack for his indefatigable efforts, and for the kindness he had shown to every member. Members would go back with very pleasant memories, and amongst the most pleasant would be the memory of Dr. Stack's kindness and goodness.

Mr. DENCER WHITTLES seconded the motion, which was heartily carried.

The PRESIDENT thanked the members very much for their vote, and the meeting closed.

Demonstrations.

The demonstrations took place at the Dental Hospital in Lincoln Place on Thursday morning. A full account of these will appear in the October issue.

Visit to John's Lane Distillery.

On Thursday afternoon, by the kind invitation of Sir John Power and Son, a large number of members visited the John's Lane Distillery. No less than ten waggonettes filled with members left Trinity College for the Distillery. The visitors were met by the representatives of the firm and conducted over the buildings, the process employed in the production of the spirit being explained, although the practical working could not be shown as no distillation is carried on during the summer. Afternoon tea was provided, and an exhibition was given of the smart working of the fire brigade attached to the works. On leaving each visitor was presented with a book of views of Dublin and the neighbourhood, and a sample of the product of the firm.

The Annual Dinner.

The Annual Dinner of the Association was held in the Dining Hall of Trinity College on Thursday evening, August 19, Dr. R. Theodore Stack, President, in the chair. The following gentlemen were present:—

Dr. R. Theodore Stack (*Chairman*), Sir George Duffey, Judge Ross, Mr. F. Purser (F.T.C.D.), Mr. R. H. Moore, Sir Robert Sexton, Mr. J. J. Andrew, Sir Howard Grubb, Prof. O'Sullivan (F.T.C D.), Dr. A. W. W. Baker, Mr. L. C. Purser (F.T.C.D.), Dr. Atthill, Mr. F. Canton, Mr. J. A. Scott, Dr. M'Grath, Mr. H. G. Sherlock, Dr. E. Byrne, Mr. W. Ash, Mr. Robert Mitchell, Mr. W. B. Paterson, Dr. A. H. Jacob, Dr. J. Creed Meredith, Mr. Patton, Mr. D. Corbett, jun., Mr. H. G. Croly, Mr. W. P. Geoghegan, Mr. Wm. Field, M.P., Mr. J. Smith Turner, Mr. D. Tallon, Sir Francis Cruise, Mr. D. Corbett, Sir Henry Cochrane, Sir A. Reed, Sir Wm. Thomson, Dr. W. Haughton, Mr. Storer Bennett, Dr. Conolly Norman, Mr. Baillie Gage, Mr. Callow, Mr. Watson, Dr. Cox, Mr. Mitchell, Mr. Cantrell, Mr. J. J. Farrall, Dr. Grevers, Mr. J. Dallas Pratt, Mr. G. F. Blake, Dr. Cronyn, Mr. W. B. Bacon, Prof. Dixon, Dr. Drury, Mr. Angle, Mr. L. Buchanan, Mr. R. G. Mathews, Dr. J. Alfred Scott, Mr. F. J. Bennett, Dr. Bewley, Mr. Price, Mr. North, Dr. M. O'Sullivan, Mr. J. W. Moore, jun., Dr. Coleman, Mr. Harding, Mr. Chance, Dr. R. D. Purefoy, Dr. Macan, Mr. J. A. Biggs, Dr. C. E. Boyce, Dr. Lentaigne, Mr. Orpen, Dr. Courtenay, Dr. W. Smyly, Mr. L. Read, Mr. A. Benson, Mr. Jonathan Hogg, Dr. J. W. Moore, Mr. Fagan, Mr. V. B. Dillon, Mr. Plunkett O'Farrell, Mr. J. Ackery, Mr. G. M. P. Murray, Mr. K. E. O'Duffy, Mr. P. O'Meehan, Mr. S. J. Bishop, Mr. J. S. Thomson.

The loyal toasts having been duly honoured, as well as the toast of "The Press,"

Dr. LOMBE ATTHILL proposed the toast of "The British Dental Association." He said: Before we separate to-night we should express our appreciation of the great value of the British Dental Association, and with the toast, gentlemen, I will couple the name of a gentleman most high and most deserving of esteem, I mean Mr. James Smith Turner. The British Dental Association has been received with the greatest possible friendliness and warmth by us in Dublin, and by the profession throughout all Ireland. That, no doubt, is due to the great value which we feel this Association has, the great benefit which is accorded to the profession and the public through its influence. But I do feel that that warm reception has been accentuated by the fact that the chair is filled by a most distinguished Irishman. Dr. Stack has been placed in the chair not solely on account of his great professional attainments but for his high character, and I feel, gentlemen, that while you have conferred an honour upon him that honour will be reflected on yourselves. I have to propose now health and prosperity to the British Dental Association, and I am quite sure that that toast will be received in a most enthusiastic manner. The Association has been productive of the greatest possible benefit, and it deserves the warm support of the medical profession, of which it is a branch, and of the public at large. It has been a means, and in the future will be a greater means, of elevating that great branch of medical science, dental surgery. You are well aware of the great achievements which medicine and surgery have made during the Victorian era, and I am satisfied that while other branches of medical science have advanced, perhaps the greatest advance of all has been made by dental surgery. It has not only advanced, but there has been a revolution. When I joined the profession, which unfortunately for me was the first decade of the Victorian era, dental surgery could hardly be said to exist ; in fact, I am hardly exaggerating when I say that there were no dentists. No doubt in London, Dublin, and other large cities, there were a few gentlemen of education and talent who were entitled, and justly entitled, to be called dental surgeons. In this city we had names still honoured by us, such men as L'Estrange and Moclain. They were followed by others—I will not say they were associated with them—some of whom are still amongst us. I need hardly mention the names of Corbett and Moore to remind you that in Dublin we have always had men of talent and education who practised dental surgery. In the past there were empirics, men of no education, no attainments whatever, men who called themselves dentists, but were not dentists, men who, I believe, broke more teeth than they extracted, men who obtained practice, if you can call it practice, by the most unworthy means—by the exhibition outside their doors of jaws moving up and down. I well recollect in my early years I attended the wife of one of these gentlemen, and she told me, almost with tears in her eyes, that the partnership was dissolved, and that they had lost the jaws, and without the jaws they could not exist. That is past and gone. I believe these jaws move still, but they are not registered dentists. Well, gentlemen, a great change has been made since those days. The first step was the obtainment of the Dentists Act, and to Mr. James Smith Turner and his associates is to be given a good deal of credit, if not the sole credit, of the passing of that Act. That Act was a most imperfect one. Its greatest blot was this, that some hundreds, if not thousands of names are on the register of men who are dentists simply because they pulled a few teeth before the Dental Act. That cannot be remedied. Parliament has thought more of the personal advantage of a few hundred men whom they have put in front of the well-being of the millions, and they call that justice. I call it gross injustice. Time will remedy that, but it will take a long time, and then I hope and believe you will have every man on the Dentists' Register worthy to be called a dental surgeon. Gentlemen, we members of the General Medical Council have been asked by the British Dental Association to assist them in raising the standard of education. I answer myself that as far as in my power goes I will aid them. I will answer for the whole Council, and I believe the whole Council without a single dissentient will say that as far as is in their power they will raise the standard of dental education throughout the British dominions. But, gentlemen, the powers of the British Medical Council are very limited. They can do two things. They can inspect examinations ; they have done so and they will continue to do so, but all they can do is to report. They have no power beyond reporting to the Privy Council that these examinations are insufficient, and the Privy Council I am sure will not always follow the advice of the General Medical Council. They also can remove names, but they cannot remove names themselves. The General Medical Council is a judicial body and cannot be the prosecutors. You, gentlemen, must be the prosecutors, and when you bring the cases before us you may be sure, if you establish a case, that the name will go. But, gentlemen, there is more wanted than what the General Medical Council can do. A great responsibility rests on the licensing bodies. They, not the General Medical Council, have the remedy in their hands. They must have efficient examinations. They must take care that the standard of education is kept up. An examination is an excellent thing, but unless the examining bodies see that a proper standard of education is maintained, that a full curriculum is maintained, the examination will be a mere form, and a farce and a delusion. I believe that within a moderate number of years, years, unfortunately, which I cannot hope to see, you will find the condition of dental surgery in a very satisfactory position, a position ranking almost on an equality with that of medicine and surgery, with which, in my opinion, it does rank. One word more, gentlemen, and I have done. I have mentioned the name of Mr. J. Smith Turner. The Dental Act, imperfect as it is, was a very great step in advance, and that Act would never have been passed except for the energy and influence of Mr. Smith Turner and his colleagues. I ask you, gentlemen, and especially the members of the Association, to give to him the warm thanks of this assembly. I ask you to give it to him in the most hearty manner. In conclusion, I again say that I wish every possible prosperity to the British Dental Association, and health and happiness to Mr. James Smith Turner.

The toast was drunk with enthusiasm.

Mr. J. SMITH TURNER, in reply, said : Mr. Chairman and Gentlemen,—I hope you are not all going to stand up because I am called upon to respond for the British Dental Association—you will frighten me if you do. I am of a nervous disposition, and I am easily distracted. There is one thing I very much admire, and that is the way in which you conduct your meetings in this happy island. We complain sometimes in our church services that the clergyman has it all to do, and that the congregation has not a chance, but I think at your dinners you all get a chance, and a very good innings, and the speaker has very little to do. So far as I could understand from the speech of Dr. Atthill, I think the British Dental Association has every cause to be proud of the generous way in which he referred to us. From what I could gather Dr. Atthill referred to one or two things in connection with the Dentists Act. He said that I was instrumental in passing that Act. Well, I confess to having done a good deal of work in that direction, but we must not forget the great ruling spirit who was at the back of it all and who has since left us—we must never forget that that Act was the outcome of the work of Sir John Tomes. There are others who have helped materially to the passing of that Act, who, I am happy to say, are still with us. I believe Sir Edwin Saunders wrote to our President saying that if he had been 62 instead of 82 nothing would have kept him away from this meeting in Dublin. Dr. Atthill referred to the number of names that were admitted on to the Dentists' Register after the passing of the Act. Well, that is, as we say in Scotland, a fly you had better let stick to the wall and not disturb it. There is no use crying over spilt milk. It was an error of judgment, or an error of some kind on the part of some members of the Medical Council. They did us a terrible injury, but it is not an irreparable injury, for time will cure it. Gentlemen, it has been truly said by the proposer of this toast, that after the Act was passed the British Dental Association came into existence; and perhaps you may ask, What has the British Dental Association done? Well, when it came into existence it found what has elsewhere been described as a fortuitous concourse of atoms, and it welded that concourse of atoms together and made them into a solid mass and established it as a distinct and honourable profession, with all the privileges that usually belong to a liberal profession. We have been called a trades union and a close corporation, and all sorts of funny names have been used by people who, I think, did not understand the meaning of the words they were employing. Like the medical profession we are an open profession; our doors are open to anyone who will take the trouble of entering them; but they must not expect that if they "cannot get in by the golden gate" they are to get "over the garden wall." The doors are open to those who come in in the proper manner, that is to say, if they will consent to pass a certain curriculum and certain examinations. When they do that the profession is open to them, but it would be unjust to any profession to open its doors to anybody when they receive certain privileges from the public and from the law; and when they receive certain social considerations I say that they are guardians of those considerations and those privileges which are conferred upon them by the public. Well, sir, our British Dental Association, although it is young, has made considerable progress. We have a large roll of members, and in that roll of membership we include men of culture, men of university education, fellows of their colleges, fellows of the Royal Societies, members of your colleges "galore," as you would say, and a large body of dental licentiates. That, I think, is as much as anybody can do, and as much as ought to be expected of any association. We have also in the short period of our lives established branches throughout the country, and we have also established a Journal, and what is greater, perhaps, than all that, we have established what I hope you will hear more of to-night, a Benevolent Fund. Our great object now is to educate a number of men who will be daily and yearly more and more fitted to stand between the public and the army of charlatans who are continually preying upon their credulity. We are going to do a little more if we can ; besides educating these men we may, if need be, make another appeal to the Legislature for further help in this matter. We may be spared the necessity of it, but I fear the necessity is looming in the future, and I would advise you all to make up your minds to face the difficulty, and this difficulty, this great task, must be faced in unity. The British Medical Association has been described by one of its members as being like a stranded whale, a huge body useless to itself and to the profession. It has become so because it does not act in unity. The British Medical Association has a strong Parliamentary Committee, and about two years ago that Parliamentary Committee framed one or two clauses which were to be taken as amendments of the Medical Act ; but owing to the democratic character of that Association, it must needs be that these resolutions were sent to all the branches for their approval. The resolutions came before the Metropolitan Counties Branch, a large and powerful branch of the British Medical Association, and they met together—I speak from the book because I was there—and at their first meeting they criticised these resolutions or suggestions of their Parliamentary Committee. Then they did more, they traversed the whole field of medical legislation and turned it upside down, and reconstructed by their resolutions the structure of the Medical Council. Their resolutions were in many cases utterly foolish, and their legal adviser drew his pen through some of them, but their resolutions were sent in to the Parliamentary Committee. Now supposing all the branches exercised the same privilege, I wonder when the Parliamentary Committee would get through its work and harmonise the wishes of all those branches? The resolutions were sent to the provincial branches and have disappeared. Nobody knows where they are now. They are like poor Andrée's balloon, they have gone away and no one knows when they will come back. That is the secret of the weakness of the great and powerful British Medical Association, and if the same course is followed by the British Dental Association their chances of legislation will diminish in the same way. I do not say that by way of instructing our medical friends here, but I mention it to show you what may be done if you all think that nothing is worth having unless it comes from the wisdom of the mass of the members. Gentlemen, I have referred to the matter of education. It is a very difficult question to approach ; it has exercised both the Medical Council and our

Association during the past year, but I fear that we are going sadly astray on this question of so-called education. You may train a man to be anything; you may train him to be a skilful surgeon, a skilful dentist, or a skilful physician almost without his being an educated man. A trained man and an educated man are two different beings. We have a complex nature, and if we lose sight of our inner nature in our education we only train the acquisitive aspect of the mind, and I am very much afraid that our young men of the present day are being trained in that way. They are being trained to march forward to the clink of the guinea instead of marching forward to the music of the inward promptings of their individual selves. You may make a trained man, but if you follow this course of examination, if you allow science to put its iron grasp upon them to the exclusion of the education of their inner man, you will only get trained men. Science, let me say, has received an enormous impulse from such men as Tyndall, a countryman of yours, Faraday, Lord Kelvin, and that great and powerful teacher Huxley. Science has received an immense impetus of which it has taken full advantage. But science is strong, and it is arrogant and it is young. Let me tell you this, that the *literæ humaniores* is as old as humanity itself, and if you neglect that culture which cultivates your inner nature you will have trained men but not educated men. Your Banks and your Houghtons and such accomplished men will become scarcer and scarcer, and only the bare doctor or the bare surgeon or the bare dentist will encounter his patients, and not the men who can look on both sides of human nature, its spiritual and material side. Science is a great leveller, and you will lose individuality by the reign of science. What was it Tennyson said?

"Knowledge comes, but wisdom lingers,
While I linger by the shore;
And the individual dwindles
As the world grows more and more.'

Put the word "cram" for the "world," and say that "the individual dwindles as the cram grows more and more," and you will have the position of not only the medical profession but the dental profession as well. We must not forget that we have a soul to be educated. We feel we have a kind of religion in us that we must worship. Whether we worship god or devil we have sentiments within us that require training, and if we do not train those sentiments we will lose our self-sacrifice, we will lose our devotion, we will lose our professional patriotism—for I think there is such a thing as professional patriotism—and we will march forward, as I said before, to the clink of the guinea instead of our own higher aspirations. These are the thoughts that cross me when I think of the question of education, either for the dental, the medical, or the surgical profession.

The poet has well said :—

"Life and soul make wretched jangling, they should mingle to one sire
As the children's voices mingle in some old cathedral choir.

. . . .

Soul, alas ! is unregarded ; brothers ! it is closely shut :
All unknown as royal Alfred in the Saxon neatherd's hut,
In the dark house of the body, cooking victuals, lighting fires,
Swelters on the starry stranger, to our nature's base desires.
From its lips is't any marvel that no revelations come ?
We have wronged it ; we do wrong it—'tis majestically dumb !"

That is the position into which every member of our profession is driven if this grip of science is allowed to extinguish the higher aspirations to which we were at one time accustomed. It has put its hands now upon our curriculum year by year, and it has now put its iron grasp on our preliminary examination, and when I stand in this hall and address the members of this great and ancient university which has held up the light of literature through the dark ages of our country, I cannot help appealing to them, as one man to another, to make a stand to lighten this incubus of science, science, science, money, money, money, arithmetic and algebra, for with the commercial instinct on the one hand, and scientific pressure on the other, they are jamming the professional spirit out of us. Well, you may say, What has that to do with the British Dental Association? It has this much to do with it, that we start from the same platform in our professional career ; the preliminary examination is the same for the medical man as for the dentist, and that preliminary examination has been tampered with by the advocates of pure science, and I would ask the members of this great university to try, if possible, to claim for the preliminary examination of the student some of that higher education which makes a refined gentleman. Gentlemen, I am afraid I have got on the wrong horse, but when I get on this subject of education I do not know when to stop ; but I will stop now, and I will ask you to accept my thanks on behalf of the British Dental Association. We have done a very good work this year in many ways, and we have finished up our work by this glorious assembly and by receiving the grand, majestic hospitality of this great city of Dublin. I esteem very much what Dr. Atthill said in referring to our President. No one knows better than I do what Dr. Stack has done on behalf of dental education. I am proud to see the way in which he is honoured and esteemed by his fellow-citizens, and that honour and esteem, I beg to assure you, gentlemen of Dublin, extends through his own profession among everyone who knows him. I do not think I need trouble you any longer. I think I have transgressed on your patience very materially. I thank you sincerely for having done me the honour of listening to me on behalf of the Association, for I think it an esteemed honour indeed, and I think that it betokens some temerity on my part to address an audience so largely belonging to a land of orators.

Mr. E. LLOYD-WILLIAMS, in proposing the toast of "The Universities and Royal Colleges," said that if the inspiration of goodness were the "strongest link in the chain of universal brotherhood" yet it might be said—and he thought truly—that the inspiration of learning was one of the prime factors in forging the many links which constituted the unity of the human race. How far the education of the country might foster the moral qualities of its sons, was, however, a question which, although interesting in itself, scarcely subject matter for after dinner reflection. Suffice it to say that what Ireland was to-day, and the part that her sons had taken in making the history of the world, were largely due to that liberal educational spirit which was so freely abroad on that side of St. George's Channel, and which was focussed in those glorious institutions which were to be found in the ancient city of Dublin. He was better acquainted with the medical side of that education, and it required no strained effort to perceive that medical students had access to advantages of which any city in the world might well be proud. He considered it a distinct privilege to have been for a short time a student at one of their special schools which had no mean reputation—the Rotunda Hospital—and if the training which one received at that hospital was a sample of the practical medical work which was carried on in the schools of Dublin, he was fully convinced that those who stood at the helm of education in that city were imbued with a conscientious desire to benefit the true cause of learning. They were there that night, he understood, by the kind permission of the authorities of Trinity College, a privilege which the British Dental Association highly appreciated, and which it accepted as a kindly encouragement in its efforts to elevate that humble branch of the healing art which its members practised, namely, dentistry. He coupled with the toast the names of three gentlemen well known to them all, Professor Purser, Sir George Duffey, and Sir William Thomson.

The toast was drunk with acclamation.

Prof. PURSER (replying on behalf of Trinity College) said he could not help regarding it as a great privilege and pleasure to be able to assure the members of the Association that the College was exceedingly gratified that they should have chosen to hold their meetings within its walls, and to tell them that the University, in the larger sense of the term, welcomed them as members of a kindred profession, as gentlemen who, by dint of very great ingenuity, skill, ability, perseverance, and other high qualities, were fast making their way towards being recognised as one of the very highest of the learned professions. It only remained for them, as Mr. Smith Turner had so eloquently and impressively urged upon them, that they should cultivate other sides of their nature besides the scientific one, for them to take rank on a perfect equality with the other learned professions. The University was proud of its old *alumnus*, their able and distinguished President, and he knew right well that the President had the same feelings of affection towards his old *alma mater*. The University had only one feeling towards the Association, that of the fullest and completest sympathy, and as they were workers in the same field, the University begged to thank its comrade in the heartiest manner for the kind way in which had been spoken of.

Sir GEORGE DUFFEY, on behalf of the Royal College of Physicians in Ireland, returned his sincere thanks for the kind way in which the College had been included in the toast which had been so ably proposed. He claimed for the Royal College of Physicians of Ireland that it was always most willing to assist by every means in its power any legitimate efforts to promote and advance the common interests of their profession. He said especially "common interests," because he claimed that members practising dentistry should be looked upon as a most important part of the profession of medicine and of surgery. The objects of the British Dental Association, too, deserved professional commendation and support. He compared the British Dental Association to the British Medical Association. Like the British Medical Association the British Dental Association had a large and increasing number of members, a large number of active Branches, a very important Executive Body, and also a very ably conducted Journal, and he was also reminded, a Benevolent Fund. Since the last meeting of the Association in Dublin it would be observed that considerable progress had been made in dentistry in the city. They had now a Dental Hospital, which they had very good reason to be proud of, and he had every reason to believe that the students attending that hospital had a first-rate education. In that hospital there was a museum collection which, thanks to the energy and skill of his friend, Mr. Booth Pearsall, was the first of its kind and one worthy of imitation in other Institutions. The subject of Dental Examinations was a delicate one to touch upon, but he might be permitted to say that, having had a considerable experience as Inspector of Examinations for the General Medical Council of all the final Professional Examinations throughout the Kingdom, he had come to the conclusion that in most, if not all of them, there were some good points, but none of them could be called, perhaps, perfect; and he thought, with very great respect, the same might be said of Dental Examinations. He believed that the discussion which had recently arisen, and the misunderstandings which had occurred, would be really productive of good, and tend to the elevation of the dental diploma and the improvement of the status of the British Dental Association.

Sir WILLIAM THOMSON, responding on behalf of the Royal College of Surgeons, Ireland, confessed that he rarely rose to respond to the toast with pleasure, as after dinner speaking was almost always unpleasant to him, but on the present occasion it gave him very considerable pleasure. In the chair was his old friend and fellow-pupil Theodore Stack, and he was delighted to speak as representing the College of Surgeons under Dr. Stack's chairmanship. Another reason for the pleasure he experienced in responding was the fact of speaking at a meeting so distinguished and so great as a meeting of the British Dental Association. Mr. Smith Turner had declared the other evening that the Representative Board and he himself had been the subject of criticism, and he (Sir William) did not expect that the College of Surgeons, or he as its President, should be relieved from what was the common right of every individual. He himself believed in criticism, and he was perfectly ready to criticise and to receive criticism when that criticism was reasonable and proper. Quite recently, as they were aware, he had had an opportunity in the Medical Council of calling attention to some points in connection with the Dental Examination. He was not now going to enter into that question, because it was a question probably very debatable, and a question to which he should like to devote more time than they were ready to give him ; but he wished to say at once that in the College which he represented he thought he could claim that they had shown themselves to be friendly to the great Dental Association, and not only friendly, but most anxious that they should do everything they possibly could to aid that Association in elevating the dental profession to the position to which they wished it to attain. He listened, as he was sure they all had listened, with the greatest interest and pleasure to the admirable speech of Mr. Smith Turner, and he entirely sympathised with the views Mr. Smith Turner had expressed. He thought it a most important thing that while they were training their men they should see that they were educating them as well. He agreed with him in thinking that the preliminary course which was laid down by the General Medical Council for entrance into the medical profession and into the dental profession was a ridiculous one, and one of the earliest acts that he did on that Council was to draw attention to that very subject. It was now referred to a Committee with the view of enlarging and raising the scope of the Examination. Some criticism had been passed upon him with regard to the questions which he asked at the last meeting of the Council. He again said that he was not going to enter into the pros and cons of that, but the purpose which he had in view was to fasten the attention of the Council upon a point which he thought had been overlooked; upon a matter, which, if it were properly considered in the interval would come up for discussion at the November meeting. He could say this : that any purpose he had in the questions was that the scope of the Examinations laid down for dental candidates should be, in his view, a proper scope, and that it should have a full relation to the subjects of the dental profession. So far as the dental profession was concerned, he hoped he would have their sympathy when he said that he should like to see every member on the Dental Register a registered medical practitioner. He asked them not to think for a moment that he had in view any attempt to lower the standard of their examination ; on the contrary, if it were left to his individual direction he should make that examination as stiff as probably the candidates would like. But that, as he said, was a matter which would come before the November meeting, and the Council would then have before it the reports of the Inspectors upon all the Examinations which had been held throughout the three Kingdoms. It would have before it the comments of the various licensing bodies upon those reports, and he hoped that the Council would come to a decision which would be in accord with the wishes of the Association and of the whole dental profession. He thanked them most sincerely in the name of his College. As he had already declared, the College was in entire sympathy with every effort that the Association could make to advance their own profession, and that he, as representing not only the College, but that very much larger body, the whole profession in Ireland, on the General Medical Council, would, whatever view he took, do his honest best in the direction of elevating, or helping rather the Association in the elevation of their profession, by enlarging the scope of the examination, and helping the Association in all ways and in every possible fashion to put the stamp they wished upon its members.

Sir FRANCIS CRUISE, in proposing "The Benevolent Fund," said he noticed from the Balance Sheet that the income of the Fund amounted to about £420, a very goodly sum, spent quietly in doing good to their poorer brethren. It appeared to him that with some organisation that sum might be largely increased. If the Dental Association numbered, as he understood it did, nearly a thousand members, surely it would not be too much that each should give one guinea a year. With that to depend on, and perhaps many little other donations, a fund might be accumulated which would enable the great Association to place all those stricken with illness and their families above want.

The toast having been duly honoured,

Mr. J. ACKERY briefly responded, announcing that the President had promised to subscribe ten guineas as a Jubilee offering to the Fund. Messrs. Ash had also increased their subscription to ten guineas. He thanked the members for the kind manner in which they had received the toast.

Mr. G. M. P. MURRAY proposed "The Visitors." He said that when he looked around him and saw the best of his fellow-citizens assembled round that table, men who in the practice of their profession, in the exercise of their official capacities, or in the conduct of their business, had earned, and largely earned, the respect and cordial esteem of all who knew them, he felt proud, as a member of the

British Dental Association, to stand and propose to his colleagues on the Association that they should drink the health of those gentlemen who had honoured them and honoured their profession by accepting their hospitality. He called upon the members of the Association to feel themselves Irishmen for the nonce, and to accord to their visitors "*caed mille failthe*"—a hearty welcome to their table.

The toast was drunk with acclamation.

Mr. WILLIAM FIELD, M.P., in a bright and humorous speech, replied on behalf of the guests. The greatest development of medical science during recent years he considered to be specialism, and those who were present as representing the British Dental Association were the exponents of that specialism which was to be the feature of every profession. It was because of that specialism that they were advancing with such strides. He recognised the value and utility of the British Dental Association, and he remembered the fact that they had nothing before them but the good of the community, the elevation of the individual, and also they pursued that ideal which had been so forcibly laid down by his friend Mr. Smith Turner, that they should never ignore the fact that sympathy, confidence, co-operation, and mutual respect were the basis and the *raison d'être* of humanity. Dublin, he said, was famed for its hospitality, and he trusted that the members had enjoyed their visit and that they would soon come again.

The toast of "The Chairman" was proposed by Mr. F. CANTON, who said they all knew Dr. Stack's high professional attainments and the high position he held in the City of Dublin, a position won by his kindness, his sympathy, his gentleness, and his liberality to his patients and to his fellow citizens and to his fellow practitioners, won also in spite of the severe disability from which he suffered. If he (Mr. Canton) spoke for an hour he could not express their feelings better than by saying that Dr. Stack was loved by everyone that knew him on that side of the water and on the other.

The toast was enthusiastically drunk.

The CHAIRMAN, in replying, said he could not attempt to let himself out and say how much he felt the generosity and kindness with which through the whole trying time of the meeting he had been supported by those present. He hoped he was not betraying confidence when he stated that the liberal manner in which many of those present had supported the Reception Fund had touched him deeply. He was not referring to Dublin alone, but to Cork, Limerick, Londonderry, and Belfast, and other large towns which had joined in and given them a lift. The few little whispers of what had been said that evening which had reached him had for once in his life made him thankful that he had not very acute hearing, because he believed that, if these were samples of the general conversation and public speeches, he, if he had heard all, would not only have had his heart touched but his brain turned.

FRIDAY, AUGUST 20.

Visit to Glendalough.

The excursion to Glendalough, or "The Seven Churches," as it is more commonly called, was an attraction which kept a good many members in Ireland over the Friday. A special train was chartered, and left Harcourt Street Station about half past ten on Friday morning, with about 150 members and their friends. The train skirts the coast for about thirty miles, affording a splendid view of the channel, and then turns suddenly inland to Rathdrum, some seven miles further on. At Rathdrum a number of cars and brakes were in waiting, and a picturesque drive of about two hours or so—unfortunately in a few heavy showers of rain—brought the party to the famous spot,

"Glendalough, whose gloomy shore,
Skylark never warbles o'er."

It is a mountain lough overhung by many a rocky precipice, down which in thin trickling stream or roaring torrent innumerable cascades flash into the dark waters below. The seven churches from which the place takes one of its names are not imposing structures, but they are interesting from the fact that they formed one of the most ancient seats of learning in Ireland, St. Kevin, the founder of what might be termed the ancient University, having been born in the year 498.

Luncheon was served in a marquee erected in the grounds of the Royal Hotel, and three hours were allowed for rambling around the lough. The return journey commenced at five, and as the rain held off the drive back to Rathdrum was a very pleasant one. Barely had the train started, however, before the rain descended as it only can in Ireland, but from the warmth and comfort of a first-class carriage one could afford to contemplate it with equanimity. A stop was made at Kingstown to enable members who wished to cross the channel to catch the boat, and then the train went on to Dublin, which was reached about 9 o'clock. To Mr. Murray, and the members of the Entertainment Committee, great praise is due for the admirable manner in which the whole excursion went off, and the thanks of the members are due to them for a most delightful day's holiday.

Western Counties Branch.

A COUNCIL MEETING of the above Branch will be held at the Grand Hotel, Plymouth, on Saturday, October 2, at 3 p.m. Afterwards, there will be an informal meeting of members. Any member having any communication to bring forward is requested to inform the Hon. Secretary.

T. A. GOARD.

6, *West Southernhay*,
Exeter.

Original Communications.

Valedictory Address.*

By F. CANTON, M.R.C.S., L.R.C.P., L.D.S.Eng.

Ladies and Gentlemen,—A valedictory address is necessarily retrospective in its character, and usually contains a *résumé* of the events which have taken place during the term of the President's office.

But as in our Association we have annually a Treasurer's Report and a Secretary's Report, and these Reports give a very fair and succinct indication of the course of events and of the working of the Association during the past year, it is unnecessary for me to take up your time by repeating a well-told tale.

We have this year been celebrating in various ways the 60 years' reign of our Empress Queen, and the various periodicals have vied with each other in recording the expansion of the Empire, the development of trade, the revelations of science, and the great achievements of medicine and surgery, with both of which dentistry is inseparably connected.

Although in our speciality there has been nothing startling introduced to our notice, we have been assiduous in our efforts to increase the comforts, or rather to mitigate the discomforts of our patients, and to modify the mental trepidation of those who, under the stress of circumstances, have to seek our aid.

The signs of educational advance have been marked by the discussions of methods of teaching, and by an increase in the demands made upon the candidates for our special diploma, and also in the direction which our scientific investigations have taken during the past year or two.

We have not been troubled with debating and redebating the possibilities of implantation, transplantation, and replantation, and such-like topics, as barely touch the fringe of scientific discussion, but in exploring some of the more occult processes and conditions of development and dentition, and the minute anatomy of the teeth, and in the almost virgin field of bacteriology.

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* Delivered at the Annual Meeting, held in Dublin, August, 1897.

Our investigators both at home and abroad have shown that they are actuated by the true scientific spirit, which prefers quiet and unostentatious progress to the applause of popular wonder and ignorance.

On the whole, then, I think I am safe in saying that our advances in dental science and practice equals, if not surpasses, that made in medicine and surgery, although we cannot consider our calling as a profession of more than eighteen years' standing.

For reasons already stated I do not propose to go into details of this progress; and, moreover, the President of the Southern Counties Branch went considerably into this in his address recently delivered at Croydon.

The great advance made in our profession I consider very largely due to the existence of this Association, which, by bringing men together from various parts of the Kingdom, as it has done to-day, has done much to extend our knowledge, and to keep the profession a united one.

The progress of the Association may not be rapid enough to please some, and others do not hesitate to prophesy, if not a wide rupture in our ranks, at least a falling off in numbers, which portentous utterances are not new, and up till now they have not proved true, and I am thankful to say that our numbers increase, and that the great rupture is as far off as ever. I honestly believe that both our Business Committee and our Representative Board do their best for the true interests of our profession, and for the welfare of our Association.

But even if our progress be slow (which I do not admit) it is to my thinking sure, and that is not an unimportant consideration.

Meeting as we do to-day in this City of Dublin, and cordially received by our professional brothers, one is tempted to indulge in a nine years' retrospect; yet here again I feel that I might be an intruder on the domain of my successor, but this much I may venture to say, that we all remember the great success of that meeting, with its wonderful Museum, which was felt by many to be worthy of more than an ephemeral existence, and with its admirable and generous arrangements both for business and pleasure; and I am sure that I may venture to say that, if our present meeting were entirely devoid of all those features that make our annual gatherings so enjoyable, the memory of nine years ago would supply us with a reserve of pleasure sufficient to carry us through the dullest meeting that could be imagined out of Ireland. I could not imagine a dull one in it.

My year of office having come to an end, it only remains for me once again to thank you for the honour you have conferred on me, and to ask Dr. Stack to kindly take my place in the Presidential Chair of our Association.

Inaugural Address.*

By R. THEODORE STACK, M.D.Dub., F.R.C.S.I., L.D.S.Eng.

Gentlemen of the British Dental Association,—I thank you all from England, Scotland, Wales, and Ireland, whose votes have made me your President. This is an honour that is pecularly gratifying to me, because I feel that it is a great kindness on your part to overlook my obvious defects; and equally do I feel that it is a recognition on your part of my having devoted much of my time during the last twenty years to advance the professional position of the dentist.

Although I have been engaged in this work for twenty years I feel myself comparatively a tyro when I see around me certain veterans who have always upheld the status and dignity of the dental profession.

We have in our own city Mr. Corbett and Mr. Moore, gentlemen who have upheld the character of our profession, each for a period of over sixty years, and we have among us to-day a gentleman whom, I am happy to say, we all recognise as having thrown himself heart and soul into the cause of dental progress; who has, I believe, never been absent from one of our annual meetings; whose counsel has guided us through many a difficulty, and whom the unanimous voice of the dental profession delights to honour—that is Mr. James Smith Turner, of London.

Now, I am not going to even rapidly sketch the immense progress that our profession has made since the late Sir John Tomes and Mr. Turner threw all their energies into obtaining for us a recognition by the Imperial Parliament in the year 1878; but all the same I feel, and I believe we all feel, that the man now living who has done most for our cause is Mr. Turner, and I am greatly cheered and gratified by seeing him again amongst us to-day. He and others of those who have fought along with him in our early struggles are here to-day in considerable numbers, and the numbers would have been still greater except for several unavoidable and counteracting causes. The Jubilee of Her Gracious Majesty has, to a certain extent, diverted into its enthusiastic channel certain streams which, in the ordinary course, might have flowed towards a holiday in Ireland about this time of year. Then we have the International Medical Congress taking place this week at Moscow, which has drawn from our ranks a considerable number of cultured dentists.

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* Delivered at the Annual Meeting held in Dublin, August, 1897.

Now, it is a hopeful sign of progress that we find a large number of the younger members of our profession attending this meeting in Dublin, and this zeal on their part to advance the interests of our Association, and by their presence and scientific contributions to stimulate and encourage a large attendance, is a most hopeful sign to our Association. It demonstrates that the Association has within it the elements of vigorous life, and it gives promise that those who, in its earlier years, were its organisers, may confidently look forward to continued progress and enduring vitality in the Association as it waxes in age and influence.

A meeting such as this is of great advantage in many ways to the locality in which it takes place. The reason of this is that it brings vividly before everyone the absolute truth of the aims of our Association, and since our objects are good, and since we know that they all tend to the advantage of the public, we desire that they should be brought before the bar of public opinion with clearest illumination.

Each large centre where the influence of the Association has permeated has at once felt the professional instinct of organising a large amount of help without fee for those who are unable to pay for professional assistance. Notably here in Dublin, after our last meeting in 1888, the public at once came forward and supported our efforts on behalf of the Dental Hospital of Ireland, and put the Committee of that charitable institution in possession of funds, insufficient indeed to carry out all our aims, but sufficient to make a very great advance on anything that had existed before ; and it is to that assistance of the public that the existence of the present Dental Hospital in Lincoln Place is entirely due. I hope and look forward to the probability of this meeting so influencing public opinion that we may be able in a short time to complete the buildings necessary for a fully-equipped dental hospital.

Now, the advantages of such an institution to the poor are very great. At the present moment in our dental hospital there are on the staff of the institution twenty-five gentlemen giving their services without fee or reward, and giving it in that organised way which very much multiplies the advantages that could possibly accrue to the poor by the same number of dentists giving charitable services in an isolated manner.

All the work undertaken for the benefit of the poor in the dental hospital is excellently done. The poor are just as well treated in the dental hospital as the rich can be elsewhere, no matter what fee they pay.

Now, this organised concert of a large number of dentists, brought about by the common interest that they feel in their work at the dental hospital, is of great value in many ways. In the first place, it heartens up the dentist himself and makes him more efficient. He feels that he has a large brotherhood in his profession, men who, how much soever there may exist among them an honourable rivalry in private practice, are still able to sympathise cordially with one another in their charitable work. Then this professional fraternity between them has certain further developments. It fosters a certain generosity on their part to impart their own experience and knowledge to the pupils attending such an hospital, and thus they gradually train up in a liberal way and with many advantages for learning their profession thoroughly, a new generation of thoroughly educated dentists. This, of course, is an immediate gain to the richer section of the community. It strikes at the root of any professional monopoly, and should be absolute proof to the public that those who promote such views have the first qualification for being classed among professions, namely, the desire of imparting knowledge to others without restriction.

Then where many minds meet together and discuss and advise on all sorts of professional problems there is certain to be a rich harvest of results, beneficial alike to the poor and to the rich.

In our dental hospital here in Dublin — and the same applies to the great dental hospitals of London, Manchester, Birmingham, Liverpool, Edinburgh, and Glasgow, and other dental hospitals—there is a constant endeavour to solve the difficulties of diagnosis and treatment.

Among the more recent advances in dentistry, there is a great deal to which it would be uninteresting to allude in a semi-public address, but I think it may be interesting to a mixed audience briefly to allude to the development in our Hospital of what can be done by means of the Röntgen photography.

I will ask my friend, Dr. W. S. Haughton, to throw on the screen some magic lantern slides made from such photographs.

[Here by means of the magic lantern a number of interesting skiagraphs were demonstrated by Dr. W. Haughton.]

All these points, as these photographs will have shown you, are easily cleared up by the Röntgen photography.

Now, the development in this and in similar directions is entirely due to the open discussion of such matters by a large body of professional men; and so far as I can see such open discussion would not in all probability have ever taken place here unless we had a dental hospital established in Dublin.

While, therefore, it is a great pleasure to the dentists themselves to meet and discuss these matters of scientific interest, the gain to the public is equally great in the enhanced education of dentists in general, not only of those connected with hospital work, but all other dentists who read our journals.

Let me remind my audience again, that these and similar results are due to the establishment of a proper dental hospital in this city.

Let me again remind you that the establishment of such an hospital followed immediately on the large gathering of dentists from all parts of the United Kingdom in Dublin in 1888, and when I consider the advantages derived by all classes, by the rich and by the poor, I feel no surprise that our city welcomes you, that our ancient University has received us in an exceptionally gracious manner, that the Royal Colleges have liberally aided us, that the Science and Art Museum, the Theatre of the Royal Dublin Society, and all buildings that we have asked for have been granted to us for our meeting.

It remains for me to assure you in the most emphatic manner that we, your professional brethren in Ireland, give you, who come to us from Great Britain, from the Continent, from America and from our Colonies, a most hearty welcome.

The Fracture of Platinum Pins in Teeth and the Cracking of Teeth in Soldering.

Communicated by E. DUVAL.

The fracture of platinum pins in teeth and the cracking of teeth in soldering is a difficulty, or rather annoyance, which occurs at some time or other to all interested in the mechanical aspect of dentistry. The following views, therefore, on this question, of some twenty men experts at the bench and of long experience may be of interest:—

B.—Will solder 100 out of 100 teeth without accident. He generally bends pins towards root, sometimes rivets and sometimes bends only. Thinks some men are scanty with their backing, which should cover the whole tooth.

G.—Always rivets the teeth, but only lightly, and is very careful to get the heat up very gradually. Countersinks side of rivet. If a flat tooth rides on a stump, the chances are that the tooth will give in a short time.

P.—Has some teeth break, but does not think it is always the fault of the tooth, but considers that more break now than used to. Always rivets teeth, and countersinks side of rivet. There is great danger if teeth are touching on plate; they should never touch. Punches holes on boxwood which causes depression. Depressed side goes next to tooth. The bur on the other side is filed away, and the hole countersunk.

L.—Always rivets, except where backing goes against vulcanite; pins are then left intact, only they are bent so as to form a hold in the vulcanite. Sometimes teeth crack across pins.

P. G.—Punches holes, and does not rivet, only slightly bends the pins together, and does not countersink. Has met with fractures of pins, and thinks them due to peculiarity of bite.

J.—Never has any teeth come off; does not rivet before soldering. Solders on plaster and sand mixed.

W. J.—Bends pins after punching holes, and lightly taps down with riveting hammer; then runs file over pins. He fits his tooth after backing is on, not before. Invests in plaster and sand. Carefully heats up. Rarely or never has accidents; might have three in a year among some thousands used.

S.—Used to rivet teeth, but owing to fractures and accidents has discontinued the practice. Prepares backing, countersinks holes both sides, and then without cutting off pins "nicks" them the way he bends them close to the backing, so that they come to lie at perfect right angles over the backing. Uses large numbers of teeth, and practically never has an accident.

J. P.—Does not find one tooth in a thousand break, nor the pins. Punches holes in backing, does not countersink, nor rivet, nor cut pins, but simply bends them rootwards to hold backing firm. Greatest danger is in the heating. Makes his cases nearly red hot.

C.—Always cuts his pins short, and then splits them across, and bends them longitudinally. Countersinks slightly on both sides. Thinks accidents happen through overheating, as on cracked or broken teeth solder can be seen on the side of backing touching tooth. Very rarely meets with fractures, practically never.

B. W.—Rarely cuts pins of teeth to shorten them, and does not rivet, but bends pins. Says side of backing touching tooth is already slightly countersunk by the pin of the punch, other side he countersinks. Solders as usual on sand and plaster. Thinks would warrant to solder 99 out of 100 without failure.

Ph.—His accidents are very rare, more frequent in vulcanite, than in flat teeth. Countersinks backing on both sides; generally only bends pins. Likes alloy backing in preference to gold. Always solders on asbestos fibre.

W.—Rarely finds tooth breaking. Countersinks both sides; thinks fractures occur if backing does not perfectly fit back of tooth, for bad fit causes leverage. Does not rivet, and solders in sand and plaster. Thinks riveting a danger.

St.—Has very rarely pins break off or cracking; believes it is borax getting between tooth and backing, or overheating, which produces accidents. Always slightly rivets, and countersinks on side of rivet. Solders on plenty of sand and some plaster.

J.—Uses many thousands of teeth annually and does not have a tooth cracked or pins smashed once in three months. Thinks that he would use 99 out of 100 teeth without any such mishap. Never rivets pins, nor cuts them short, only bends them over and then files them down a little. Makes case red-hot, after investing it in the usual way. Heats very gradually. Thinks fractures occur through overheating. Riveting tightly will be sure to make both go during soldering.

X.—Always countersinks holes both sides, and rivets before soldering. Has no accidents; if there are such, considers them due to tight riveting.

W.—Rarely or never has breakages of pins or cracking of teeth. When holes are punched in backing he only slightly countersinks side nearest to tooth; the side of rivet he well countersinks, and then rivets lightly, as hard riveting causes a great strain and weakness. Cases when invested should be heated very gradually, and cooled very slowly. Non-attention to these points will bring about certain mishap. Thinks, as a rule, would fix 99 out of 100 teeth without failure. Has in hand case of lady who persists in having teeth fixed in and out; these same teeth have gone through the fire 3 or 4 times without the least accident.

H. M.—Does not have any teeth breaking off; if a breakage occurs it is due to the bite, but accidents will arise if the backing is not brought close to the tooth. Sometimes there is a bur at the holes, or a little porcelain bump is sticking up on the back of the tooth. Only bends pins; but if bite goes on pins he rivets. Backing should be brought right up to cutting edge. Remove wax with boiling water, and of course heat gradually.

Gr.—Punches holes in backing, then countersinks on side where pins are bent. Then cuts pins, so that when each is bent towards the other they touch transversely. Cuts little groove in backing with sculptor, files inside of each pin, and then they bend easily. Heats gradually; never has fractures of pins, or cracking of teeth.

C. H.—Has had pins come off in flat and vulcanite teeth.

Does not countersink on rivet side. Teeth sometimes give way months and years after making. He simply cuts pins off, and bends them together. Always solders on plaster alone.

H. A.—Rarely or never has breakage. Thinks men are careless in punching holes, and thus strain on pins breaks these off. If at any time he finds pins do not readily slip into the holes punched at once uses fresh backing. Thinks some men in bending pins do it close to porcelain, and thus break the pins really before the case is soldered.

Jhn.—Prepares backing by punching holes, which are countersunk on both sides, and bent over, and sometimes slightly riveted. Pins and backing are carefully scraped. Fits tooth sometimes before and sometimes after backing. ccident the rarest thing. Considers failures due to riveting too hard and general carelessness.

Rt.—Takes backing, punches holes, and countersinks on side where he rivets. Always rivets, and does so on the side which goes on to the tooth ; he then runs his sculptor across backing, taking in the two holes also. Sometimes he finds a little ridge of mineral near pins. In that case he bends backing a little to allow for it. Riveting ought to be done on lead, and the lead often changed, as it soon gets condensed. One ought to be careful not to use too much borax, as excess will cause accidents if it gets behind backing. Never has teeth crack or the pins fracture.

MAGNAN'S SYMPTOM IN COCAINE POISONING.—Rybakoff, at a meeting of the Neurological Society of Moscow (*Neurol. Centralbl.*), insisted on the diagnostic value of the symptom of chronic cocaine poisoning described by Magnan. This is an hallucination of common sensation. The patient complains of feeling some foreign body under the skin. In some cases the foreign bodies felt were like grains of sand, in others slightly larger ; generally they were described as more or less rounded, and gave rise to complaints of microbes, worms, crystals, &c., situated just under the skin. While other symptoms of chronic cocaine poisoning occur also in alcoholism and other poisons, Magnan's symptom seems to occur only with cocaine. It is therefore of real diagnostic value, especially in cases where the patient is unwilling to admit having used cocaine. Where cocaine is extensively used in surgery and dentistry, the appearance of Magnan's symptom is a valuable indication for the immediate cessation of the drug.—*St. L. Med. & Surg. Journal.*

Legal Intelligence.

Actions for Recovery of Fees.

ROBERT PAUL MORRISON, dentist, Ilfracombe, sued Thomas Coats gardener, of the same town, at Barnstaple County Court on July 27 for £3, balance of £4, the price of a set of teeth for defendant's wife. On May 3 and 4 Mrs. Coats had the teeth tried, but afterwards wrote that her mouth was too sore to have the teeth fitted, and that the £1 deposit would be sufficient for the work already done. Plaintiff replied, making an appointment for fitting, and stating that the teeth would be finished at defendant's risk, and sent the set when completed.

For the defence, Mr. BUTLER deposed that he accompanied Mrs. Coats to plaintiff s on May 20, when Mr. Morrison twice refused to fit the teeth.

Judge BERESFORD asked plaintiff why he finished the teeth in the face of Mrs. Coats' letter.

PLAINTIFF replied that the teeth were then practically finished.

His HONOUR said there was no obligation to accept anything contracted for that did not suit. The matter might have been simplified if plaintiff had tried the teeth when asked to do so. There would be judgment for defendant with costs.

Mr. Morrison also sued Miss Jane Snow, Ilfracombe, for £8 8s., the price of a set of teeth. After having had models taken, defendant wrote that she had changed her mind, and would not have the teeth. Plaintiff asked her to come and have the teeth fitted, otherwise the set would be finished. Miss Snow declined, and offered to pay for the work done up to the time of her letter. She paid £3 into court.

Mr. G. H. LEWIS, for the defence, said his client suffered so much pain by the initial operations that she could not continue.

Judgment for plaintiff for amount claimed.—*The Western Morning News.*

Group Photograph of Members at Dublin.

Mr. I. RENSHAW photographed a large group of the members of the Association at Trinity College, Dublin. The negative has come out splendidly. This has been enlarged to 12 in. by 10 in., and will be mounted on a plate-sunk mount 18 in. by 14 in., suitable for framing. Members desirous of obtaining copies may do so by applying to Mr. F. W. Law, Photographer, 171, Yorkshire Street, Rochdale. Price 4s. each, post free.

Hospital Reports and Cases in Practice.

Death from A.C.E. Mixture given for a Dental Operation.

We are indebted to a correspondent for the following notes on the recent death at Birmingham, from chloroform given for a dental operation :—

T. W. G., age 29, came to see Mr. F. C. B. Cave in order to have some teeth extracted. He was put under the influence of gas, and took a considerable amount before becoming sufficiently unconscious. One tooth was extracted, and he then partially recovered and struggled violently, slipping out of the chair. Mr. Cave succeeded in extracting a second tooth before the patient completely regained consciousness. It was then arranged that he should return in three days and have another anæsthetic in order to have the remaining extractions done. He accordingly returned on July 22, at 4.30 p.m. The neck and chest were completely bared, and every article of clothing made loose. Careful examination of the heart and lungs showed no abnormality. The patient was laid flat on a sofa, and A.C.E. mixture was given in a Cone inhaler. For several minutes the anæsthetic was taken quietly, but he then began to struggle with great violence, this continuing for several minutes. The patient then became quieter, and began to breathe deeply and noisily, but regularly. In a short time he appeared sufficiently well under the anæsthetic, the pulse and breathing being regular. Mr. Cave attempted to put in a gag, and then the patient's pulse became feeble and fluttering, and his breathing short and jerking. The gag was at once removed, the patient was inverted, and then laid on the floor, and artificial respiration employed. He was also given nitrite of amyl and hypodermics, but notwithstanding these efforts, natural breathing was not re-established, and at the end of an hour it was considered useless to proceed further. On *post-mortem* examination, no diseased condition of any organ was found other than enlargement of the lungs and heart by fluid blood.

Abstracts and Translations.

An Artificial Larynx.

By T. P. ANDERSON STUART, M.D.Edin.

THE patient for whom I contrived this artificial larynx was a man who had had his larynx removed on account of carcinoma, by Dr. A. MacCormick, at the Prince Alfred Hospital, Sydney, on Jan. 31, 1895, and was brought under my notice by Dr. MacCormick in the end of the same year. The wound had duly healed, leaving the tracheal opening, in which the patient wore a soft rubber tracheotomy tube with a soft rubber shield, and leaving also above the tracheal opening a small fistula opening into the pharynx. Between these two openings was a wide groove not deep enough to contain an apparatus of any size. Further, the patient had a deal of chronic bronchitis, and so frequently coughed up a copious tough secretion that any of the artificial larynges I had read of or had seen figured appeared to me to be quite unsuited to his case, owing to the ease with which secretions could lodge on the reed and so silence it. Moreover, in all such instruments, as, for instance, Gussenbauer's or its modifications, where respiration and phonation take place through the same channel, if that channel is large enough for respiration it is too large for phonation, and if it is small enough for phonation, then it is too small for comfortable respiration. Further, where respiration and phonation are through a common opening the reed may sound during ordinary breathing—a most objectionable feature when present. This was recognised by Heine,* and Heine accordingly made the reed so that it could be moved aside during respiration—that is, it was in position only when required to phonate. I therefore determined to start on what appeared to be new lines—to make an instrument with which the patient's breathing should be free and unrestrained, and with which therefore he should not habitually breathe through the reed opening, in which the reed should be brought into play only when he desired to phonate, and which, being protected from the secretions of the air and food passages, should continue to act all day long, even during meals. It also appeared desirable that no metallic part should anywhere come into contact with the tissues. It is, moreover, obviously of the greatest importance that the patient should himself be able to apply the instrument, to remove it and to clean it easily. The instrument should also be comfortable to wear and thus willingly worn. All of these conditions were fulfilled by the instrument to be presently described, so that the patient himself applied it and wore it all day long, even during meals, and removed and cleaned it himself. I mention these points somewhat prominently because from the figures—for I never saw an artificial larynx until I had made one—I should say that, at all events, some of these larynges were anything but comfortable to wear, even if they were efficient as phonators. Indeed, comfort in the wearing of such instruments is almost as important as their efficiency as sound producers, because the patient will very soon lay them aside if they are not comfortable. Further, the flexibility of its parts and the ease with which their exact shape and dimensions can be modified to permit this larynx to be adapted to almost any conceivable case, for each case has its own peculiarities, and, moreover, it requires no very skilled workman to make it, so that it can be made almost anywhere, since there are few places where one cannot find a clock- or watch-maker or a jeweller. As a matter of fact, I have availed myself of such materials only and of such workmanship as may be had in any part of the world almost. This, however, is a distinct advantage, for cases requiring the application of substitute larynges are not so common that in practice the artificial substitutes can be kept in readiness for possible cases.

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* Böhm, *Correspondenz-Blatt*, No. 17, 1874.

Hitherto, when speaking of the clogging of the reed, I have had in view mainly the tracheal secretions, but in truth the mouth secretions may be very copious. The difficulty has been recognised and has been met by a lid in Gussenbauer's larynx* to act like a little epiglottis, on the theory that the epiglottis acts like a lid, a theory, however, which we have shown to be incorrect.† In other modifications of Gussenbauer's larynx an obturator‡ is used ; in others a cork or a plug of cotton-wool (Czerny), and so forth. In my instrument the difficulty is entirely got over ; no saliva escaped down the pharyngeal tube, and the patient swallowed his meals without any, even liquid, food coming down ; but further, even if it had come down, it would have been very easy to get rid of it before it touched the reed. I had one larynx made with such a provision (see fig. 5, *g*), but since I eventually found that it was unnecessary I omitted it in the final form. In Gussenbauer's form the reed can readily be removed and replaced for the purpose of being cleaned, and I fancy that, owing to the secretions and coughing, this will often require to be done. By the protection afforded to the reed in my instrument the necessity for removing it is abolished. I did make a form in which the reed was removable, but I abandoned it when I found that the

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* See fig. 1097, "International Encyclopædia of Surgery," vol. v. London : Macmillan and Co. 1885.

† See Anderson Stuart and MacCormick : "The Position of the Epiglottis in Swallowing," *Journal of Anatomy and Physiology*, vol. xxvi., 1892.

‡ See fig. 36, "The Operations of Surgery," Jacobson, second edition. London : J. & A. Churchill. 1891.

provision was not needed. Obviously the more simple one can make such things the better—so long as they act efficiently, and of this there can be no question at all in the case of the instrument now under description. The tone of the voice produced was, I dare say, monotonous, as, indeed, has been described in connection with other instruments of the sort ; yet the word monotonous conveys rather a false impression, for although modulation in the sense of varying the pitch of the sound produced within the artificial voice-box was not possible, yet the resonating chambers, by variously reinforcing the fundamental tone and its over-tones, did introduce a sort of modulation or timbre which prevented the voice from being quite without character. The patient's family, for instance, told me that in the new voice there was a distinct reminder to them that their father was speaking, with a voice much altered of course, but still with much of the character of the old voice. The reeds which I used were of the commonest. I merely cut into segments the reed-plate of a common mouth-organ ; each segment was a reed, and the lowest pitched ones were used—viz., d, e, and a. Owing to the untimely death of the patient from scurvy I had not an opportunity of trying other than these reeds, otherwise I should have tried the non-metallic reeds of ivory, horn, cane, and vulcanite which Foulis* says he found to be better than the metallic. The modified Gussenbauer's larynx, with the lobster-tailed tracheal and pharyngeal tubes figured in Jacobson† shows that the desirability of having the tubes flexible had already been recognised. In the "International Encyclopædia of Surgery" already quoted, similar devices are said to have been made by von Bruns and by Caselli. In truth, judging from what I saw in my own case, rigid unyielding tubes would have been most comfortable. Even the lobster-tailed tubes, however, cannot have been so comfortable as the ones I adopted. First, with regard to the tracheal tube, of necessity the patient wears a rubber tracheal tube from the time of the operation, so that by the time he is ready for the substitute larynx he is quite accustomed to the rubber tracheal tube. My form of the larynx, then, is simply inserted into the mouth of this, his ordinary tracheal tube, and nothing new to him is introduced, so that the application of the artificial larynx did not at all worry the patient.

In regard to the pharyngeal tube it must fit the fistula, or fluids will come down by the side of it, keeping the neck of the patient and the mouth of the tracheal opening continually wet. The size of the tube will vary with that of the fistula, but as the latter is more or less under control (of this more later) it is as well to keep it small, the outside diameter of the tube being a little over 6 mm. It should be quite flexible in every direction transversely, but at the same time rigid longitudinally when compressed, so that it may be pushed into the fistula, and in the movements of the head and neck run no chance of kinking, while at the same time it freely yields to these movements. It should likewise be incompressible laterally, so that no pressure of the muscles or other parts can occlude it. Rubber tubing does not meet these conditions unless the wall be very thick, but in that case the lumen of the tube is very small, considering the size of the tube externally. Further, I found that the valve which I adopted at the upper end of the tube was with difficulty fixed to the rubber. My first successful pharyngeal tube was the vein of an ox hardened in 2 per cent. solution of alum for forty-eight hours. The vein was supported by a closely wound spiral of piano wire half a millimetre thick. The outside measurement of the coil was 6 mm. The coil ended in a less closely wound cupola, at the apex of which the wire was turned into the interior of the whorl, so that it could not injure anything. The vein being left projecting about one-third of an inch beyond the apex of the wire coil, air could pass upwards freely, though fluids could not pass into the tube downwards. The cupolar ending of the coil prevented the wire from cutting the vein, kept the vein from being inverted into the interior of the coil, and gave a more or less pointed end for introducing the tube into the fistula. The wire was not closely wound at the cupola, and thus permitted the air to escape without obstacle. The vein, however, proved too fragile—the wire tore it during the act of introducing it, the movements of the pharynx tore it over the cupola, and the warmth and moisture softened it and made it useless. I then tried tubes of silk, cotton, and thin leather, but finally found perfect satisfaction in winding a strip 12 mm. wide, of sheet rubber a quarter of a millimetre thick, such as is used by dentists, slightly on the stretch, obliquely around the wire coil, with its edges slightly overlapping so as to make a continuous tube. The wire coil has, as it were, a spiral bandage of rubber applied to it. The more the rubber is stretched during its application the more unyielding is the resulting tube. If the rubber available is very thin one may have two layers, and in that case one would commence below and wind upwards, and then return winding downwards to the base-collar, to which the rubber is then made fast by a thread. When only one layer of rubber is used one had better begin to wind it above, the upper end being fixed by winding one or two turns, one over the other, before commencing to descend. The valve at the upper end of the pharyngeal tube is made of a piece of suède or kid leather, and is absolutely efficient, for while when wet it readily permits the sound-bearing air to pass into the pharynx, it quite prevents anything from passing down into the artificial larynx, so that the patient wore the apparatus the livelong day. The valve is attached to the wire coil by a loop of thread around a part of the coil, where two or three turns of the wire are soldered together, so that the thread has no chance of separating the wire turns. The free part of the valve is from 12 to 15 mm. long. At its lower margin it is covered by the rubber, so that there is an easy transition from the surface of the rubber to the leather, and the rubber helps to bind the valve to the wire coil. Before introducing the tube into the fistula the valve should be wetted and rolled between finger and thumb, or folded upon itself lengthwise, so that it becomes a sort of point to the tube. The patient may wet the tube with saliva as a lubricant, and while it is being pushed in it should be rolled round its long axis to help its progress. Coughing not unfrequently is excited when the tube enters the pharynx, but in my case it very soon ceased. It is of importance that the pharyngeal tube be neither too long nor too short, for if too short the force required to drive the air through it is too great, while if it be too long it irritates the pharynx and gets in the way in swallowing. To measure accurately the length required I fixed to the base collar a small flexible rubber tube about one and a half feet long; the other end was in my own mouth, and by blowing I kept up a steady air pressure while the tube was passing up the fistula. When the air passed quite freely I marked the length of tube within the fistula, and adding a little extra to allow for movements of the parts I took this as the length of the tube to be ultimately adopted. When the leather wears out the valve can be easily replaced. Placed as I was at the Antipodes I had, as already said, to work with the materials to be had on the spot, and I accordingly used sheet brass from ½ to 1 mm. thick, soldered at the joints. Owing to their non-corrosibility, gold plate and vulcanite would have been good materials in which to make the permanent form. Further, it might be advantageous to have a sort of hood on the front of the rubber shield to lodge and cover the artificial voice-box, partly to protect it and partly to make it inconspicuous, though owing to its small size this larynx was not very noticeable. I once went along a crowded street with the patient wearing the larynx, and hardly anyone noticed him.

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* *The Lancet*, Jan. 26, 1878.

† *Loc. cit.*

The pharyngeal fistula in this case was the upper end of the original wound, so that the line of the cicatrix extended downwards from the fistula. As it was found that the presence of the tube seemed to stretch the cicatricial tissue and dilate the fistula unduly, the fistula was by a subsequent operation closed, and at the same time a new opening in sound tissue was made just below the hyoid bone. A small rubber tube closed at the upper end, was kept in the new opening until granulation was complete, and the pharyngeal tube now inserted gave entire satisfaction. I may mention in passing that the epiglottis was absent. At this stage the question was raised whether it would not be desirable when practicable to close the œsophageal wound at the time of the first operation. The pharyngeal opening for the artificial larynx could be made at the same time or subsequently. Meanwhile, the closure of the gullet would prevent the escape of fluids which is such a source of trouble and danger. Should another opportunity of performing the operation present itself, Dr. MacCormick proposes, immediately after stitching the trachea to the edges of the skin, to bring together the edges of the mucous membrane of the alimentary canal and secure them with interrupted sutures of catgut, and then to bring together and secure in like manner the edges of the skin with sutures of horsehair. Feeding would thus be from the first by tube through the nose or the mouth, so as to avoid interference with the œsophageal wound, and when the time came for the fitting of the artificial larynx, an opening—if not already made at the time of the first operation—would be made just below the hyoid bone, and either in the middle line or to the side, according to circumstances. In the event of the new opening for the pharyngeal tube being made at the time of the first operation, the new opening might be made use of to feed the patient by pumping the food through a fine catheter.

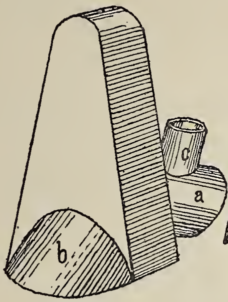


Fig. 1.

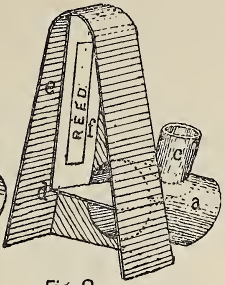


Fig. 2.

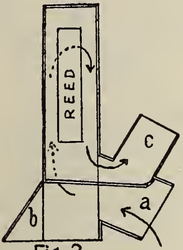


Fig. 3.

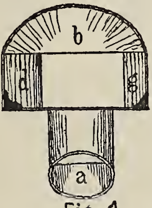


Fig. 4.

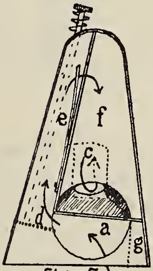


Fig. 5.

Points which the foregoing description may not have made clear will most likely be understood on reference to the figures. Fig. 1 :

The artificial larynx before its tracheal tube *a* is inserted into the rubber tracheal tube, as seen in figs. 10 and 11. The hood *b* widens the inferior opening of the larynx; owing to this enlarged inferior opening the escape of the air in expiration is made so easy that very little of it passes upwards through the passage *d* to the reed, and thus the reed does not sound except when the inferior opening is closed during phonation. The closure being effected by grasping the larynx between finger and thumb (the finger on the apex of the larynx and the thumb over the inferior opening), the closure is rendered more easy by filling the right angles of the inferior opening with solder, as is seen in fig. 4. The complete septum between the butt of the pharyngeal tube *c* and the tracheal tube *a* is partly indicated by a dotted line in fig. 2, but is seen best in fig. 3. The arrows in fig. 3 and fig. 5 show the direction taken by the air during phonation. Fig. 2: The larynx with front removed, showing the opening *d* leading out of the inferior chamber of the apparatus into the chamber *e*, whence the reed opening leads into the chamber *f*, which now leads into the pharyngeal tube *c*. These relations are seen also in fig. 5. Fig. 3: A vertical and antero-posterior section. The dotted parts of the arrows are within the chamber *e*. The lower arrow passes through the opening *d* and the upper arrow through the reed opening. The course of the air in phonation is thus, *a*, *d*, *e*, *f*, *c*. Fig. 4: The larynx as seen from below. The space *g* is in the simpler form of the apparatus a part of the general inferior opening, but where the chamber *f* is drained, as in fig. 5, the space *g* is the lower end of the drain; in that case the dotted line alongside *g* in fig. 5 is a solid septum, and the septum between *a* and *f* is wanting

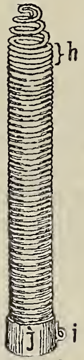


Fig. 6

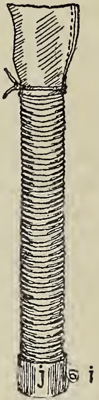


Fig. 7

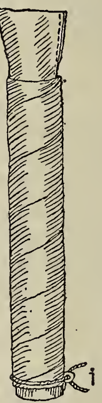


Fig. 8.

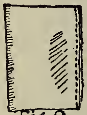


Fig. 9.

above *g*. By the filling up of the posterior angles of the wide inferior opening of the instrument, closure by the thumb in phonation is more easily accomplished. Fig. 5: A vertical transverse section. This figure shows two modifications which may perhaps be useful in particular cases, though neither was needed in my case. The opening *d* may be closed by the valve shown when, in violent coughing, secretion is forced up into the chamber *e*. This valve is depressed when the larynx is grasped by the finger and thumb during phonation, and it is raised again by the spiral spring shown around its stem. The chamber *f* may be drained by the channel *g*, if it is found that secretions get into the chamber *f*. This channel also is closed by the thumb in phonation. Figs. 6, 7, 8, and 9 show the pharyngeal tube and its parts; the wire collar is soldered to the brass collar *j*, which fits upon the butt of the pharyngeal tube *c*. The three turns at *h* are soldered together, so that the leather valve, fig. 9, may be

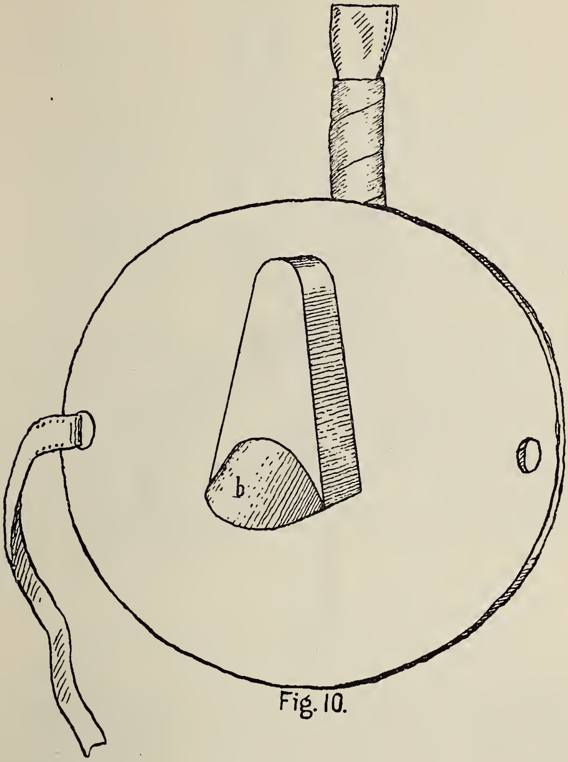


Fig. 10.

tied upon the coil here. The turns in the dome are somewhat widely separated, so as to offer less resistance to the sound-bearing air. The end of the wire is turned within the dome, so that it cannot injure anything. The end of the thread by which the rubber bandage is secured to the brass collar is brought through the ring *i*, and then round the tracheal tube as in fig. 11, so that the whole is secure. Figs. 10 and 11: Almost a full face view and a full profile view of the entire apparatus fitted up ready for use. The obliquity of the tubes *c* and *a*, as shown in fig. 3, enables the larynx to accommodate itself to the direction of the pharyngeal and tracheal openings.

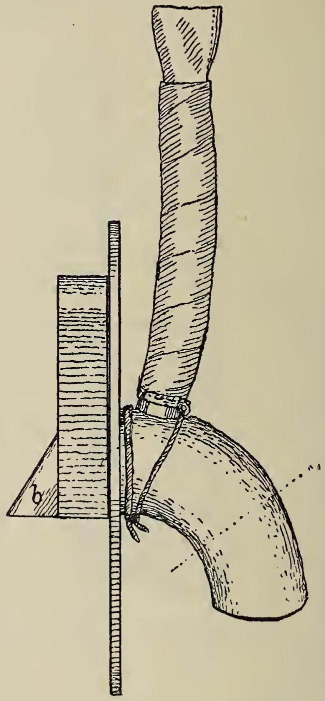


Fig. 11.

Appointment.

J. D. Ross-Watt, L.R.C.P., L.R.C.S.Edin., L.D.S., to be Hon. Dental Surgeon to the Frere Hospital, East London, Cape Colony, S. Africa.

Dr. Telschow's New Cement.

By GEORGE RANDORF, Berlin, Germany.

In describing his new cement, Dr. Telschow, of Berlin, writes as follows :—I have employed aluminium in my practice during many years, and the observations made by me during this time have suggested the preparation of a new filling material in which I have incorporated silicated aluminum and fluorhydric acid. This cement resists the acid in the mouth to an extraordinary degree, and in appearance exactly resembles the natural enamel of the teeth.

I may add that fluorhydric acid has a beneficial effect upon the roots of the teeth, and immediately allays the inflammation of pericementitis. It is introduced into the cavity dry. For the preparation of fluorid you require a glass of liquid (a), a glass of powder (b), and a bottle of gutta percha and of fluorhydric acid (c), with which the liquid is mixed with one-third of the acid. Great care must be exercised, as the acid is a strong corrosive. The hand which holds the glass must be covered with a glove, and the acid should be added drop by drop. Should any of the acid fall on the hands they should instantly be washed with soap. The bottle must be well shaken and the powder is then added.

The cavity to be filled must be well dried with bibulous paper and then with hot air. The filling is introduced soft and gradually hardens. It is necessary to shake the liquid each time before using it. A large quantity should never be prepared, as it decomposes after eight days. The filling is polished on the day after insertion, and then has a smooth, brilliant surface, indistinguishable from natural enamel.

The liquid (a) is phosphoric acid. The powder (b) is a composition of oxide of zinc and aluminum salts. The bottle (c) fluorhydric acid. —*Items of Interest.*

Danger Signals in Cataphoresis.

Cataphoresis has passed the experimental stage so far as theory is concerned. The electric current *will* carry medicaments through tissue. Sensitive dentine *can* be obtunded and excavated painlessly. Pulps *can* be completely anæsthetised and removed without pain.

These are known facts. There are others unknown to most of us, as for instance, in using it for sensitive dentine may we not injure the pulp by too high voltage, or in ways we know nothing of? We must remember that the pulp has not the powers of recuperation possessed by most of the soft tissues. What voltage is necessary to injure tissue?

Some of these machines furnish as high as sixty volts, which some claim will break up cell life and thus destroy tissue. Of course the makers claim this amount of current is to be used only in obtunding pulp for removal, but right here you must recollect that the average dentist is not an electrician, and if he attempts to use the current on sensitive dentine and the most minute leak is present, the tooth remains unaffected. He turns on more and more until he is using full strength of machine and the tissues surrounding the tooth are being ruined. Then, how do you know whether you have a leakage or not?

Will the current as used properly destroy germs, or may not septic matter be carried into parts beyond the tooth?

Some of the accidents mentioned have happened and have been reported. Here is another one of great interest and importance. A dentist in this city made an application of arsenic in the usual manner, and at next sitting attempted to remove pulp, but he found it highly sensitive. To hasten matters he applied cocaine with the current and removed the pulp painlessly, but at the next sitting he found the arsenic had been inducted into tissue beyond the tooth. Here was the devil to pay and no funds. Don't say he should have known better—anyone might have done the same thing thoughtlessly.

Never use cataphoresis in a tooth in which any arsenical compound or other injurious drugs have been placed, as the current will carry them through and cause untold trouble.

If pulps die or accidents happen report them promptly to the journals and thus keep others from like errors. Study up on this subject. Act conservatively and report successes and failures.—F. F. FLETCHER in *Dental Digest.*

The Comparative Value of Eucaine and Cocaine as Local Anæsthetics.

THE following results were obtained from experiments undertaken for the purpose of studying the action of eucaine and cocaine: (1) The injection of cocaine is not at all painful, while that of eucaine causes a certain smarting sensation. (2) Eucaine is a vaso-dilator, while cocaine is a vaso-constrictor; with the former the field of operation is clouded by the blood. (3) Eucaine is certainly an excellent analgesic, although in deep operations the perception of pain seems to be somewhat more distinct than with cocaine. (4) In an operation with cocaine, anæsthesia is still complete an hour and ten minutes after the operation, while with the eucaine it disappears after forty-five minutes.

If, said M. Reclus, eucaine was less toxic than cocaine, it was still to be preferred in spite of these slight inconveniences. M. Pouchet, he said, had made sixty experiments on different animals. He had recognised that the toxicity of eucaine was nearly as great as that of cocaine. He preferred the latter, which presented warning symptoms of intoxication, to eucaine, which suddenly overcame the patient without any premonitory symptoms.—M RECLUS, *Presse Médicale.*

Reviews and Notices of Books.

SOME METHODS AND APPLIANCES IN OPERATIVE AND MECHANICAL DENTISTRY.

By R. P. Lennox, with illustrations. London: Claudius Ash & Sons, Limited, 5, 6, 7, 8 and 9, Broad Street, Golden Square, W., 1897. Price 6s. 6d.

From time to time at the various Meetings of the Association and its branches Mr. Lennox has contributed papers and given demonstrations, all of which bristled with valuable hints and suggestions. In this little volume these papers and demonstrations have been collected together and much other useful matter added, with the result that we have a book the perusal of which cannot fail to assist us in overcoming many of the difficulties which it is our lot to encounter in everyday practice. The book is well illustrated and carefully and neatly printed.

New Inventions, &c.

Filmogen.

Messrs. Thomas Christy & Co., 25, Lime Street, London, E.C., have recently brought under notice a new medium for applying to the skin such drugs and remedies as are used in dermatology. This medium is supplied under the name of filmogen (Dr. Schiff) or liquor adhæsivus. When it is painted over the skin it immediately forms a thin, non-sticky, and flexible film which adheres firmly and is unaffected by mechanical friction or by washing with water. Filmogen consists of a solution of nitrated cellulose in acetone, to which is added a very slight quantity of oil to render the film flexible after evaporation of the acetone. Most of the remedies used in dermatological practice are soluble in filmogen to a very considerable extent, such as salicylic acid, resorcin, iodoform, pyrogallol, sublimate of mercury, chrysarobin, cocaine, ichthyol, and carbolic acid; whilst others, such as sulphur, acetate of lead, oxide of zinc, lead iodide, &c., are easily suspended in this medium. The evaporation of the acetone produces merely a cooling sensation. On open wounds the application smarts for a second or two, but otherwise is perfectly harmless and painless. The above-mentioned facts point to the advantages of filmogen over other similar media. The various varnishes sometimes used for applying remedies will not easily absorb them, and the application of varnish often causes considerable irritation and soreness. Collodion and traumaticin are not sufficiently resistent, the film becoming brittle or peeling off. Filmogen remains flexible and adheres firmly to the skin or wound, forming a protective film or covering to the diseased parts. It permits of the full action of the drug incorporated with it. Filmogen is not soluble in water. After painting the parts they can be washed, the film preventing their coming in actual contact with the water. Filmogen is easily removed by means of alcohol. The use of filmogen for antiseptic surgical dressings has been suggested in view of the solubility therein of iodoform, sublimate of mercury, carbolic acid, &c.

"Saxin."

"SAXIN" is the name given to a powerful sweetening agent recently introduced and issued in tabloid form by Messrs. Burroughs, Wellcome & Co. It possesses a sweetening power about six hundred times greater than that of sugar, and is most delicate in flavour. A $\frac{1}{4}$ gr. "Saxin" Tabloid may be substituted for each lump of sugar in the case of patients suffering from diseases in which the use of sugar is harmful. Saccharin has usually been adopted in such cases, but Saxin, as far as can be judged, is more palatable and quite as efficacious.

Instruments for Porcelain Crown-work.

INTRODUCED BY J. H. GARTRELL.

THE figures 1, 2, 3, 4, 5, and 6 illustrate the porcelain crowns, the posts, and instruments for making them.

Fig. 1 shows the shape and thickness of the posts, which are punched out from 13 gauge iridio-platinum, also from an alloy of nickel and platinum, which makes the strongest post known, and quarter the price of platinum.

Fig. 2 shows the punch used for punching the slots in thin platina: by adjusting the screw the slots are punched different sizes, as in fig. 3, to fit the posts and form the caps.

Fig. 4 shows the cross-cut reamers which follow a Morey drill to ream the root to the shape of the posts.

Fig. 5 shows the post, cap, and pins of tooth soldered together with pure gold.

Fig. 6 shows the body applied and "fired" in the furnace.

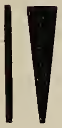


FIG. 1.

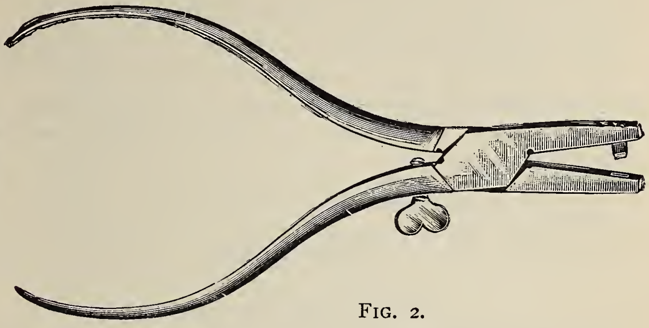


FIG. 2.

FIG. 3.

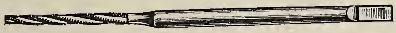
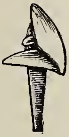


FIG. 4.

FIG. 5.



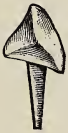


FIG. 6.

The method of fitting to the mouth is as follows:—A Morey drill clears out the canal of the root. The canal is then shaped to the post by means of the reamer shown in fig. 4. The platina cap is next placed on the post and adjusted to fit the root, and then removed and soldered with pure gold. It is then placed on the root again and an impression taken, the post coming away with the impression. An ordinary pin tooth is now fitted down and the post and tooth invested and soldered with pure gold. The body is next applied and "fired" in the furnace.

It is now finished ready for attaching to the root. The post is heated with a spirit lamp hot enough for Gilbert's gutta percha stopping to stick, then pressed into the root, removed again and the surplus gutta percha cut away. It is then smeared with phosphate of zinc and pressed into its position.

It can be removed for repairs by grasping the broken crown with a hot pliers to soften the gutta percha.

It is stronger than a gold crown with porcelain facing, more artistic, and any suitable pin tooth may be used. A band may be fitted to the root if desired, but after nine years' experience it is not found necessary except for molars and some bicuspids.

Miscellanea.

Dental Hospital of London.

The following additional new donations have recently been received towards the new Building Fund:—

W. Hern, Esq., old material	£3	3	11
R. Winch, Esq.	21	0	0
G. H. Faber, Esq.	2	2	0
Mrs. Edmund Poë	1	1	0
Ashley Gibbings, Esq., old material	2	5	0
T. Hayter Lewis, Esq., F.S.A.	5	5	0
Earl of Lovelace	3	0	0
W. D. McCarthy, Esq.	1	1	0
Mrs. G. Littlewood	1	1	0
The Lady Battersea	1	1	0
W. L. Eroll, Esq.	1	1	0
E. H. Watts, Esq.	2	2	0
A. Allright, Esq.	2	0	0
L. de Rothschild, Esq.	5	5	0
Mrs. J. F. Pink	10	10	0
E. G. Betts, Esq.	52	10	0
J. M. Ackland, Esq.	10	10	0
L. G. Austen, Esq.	5	5	0
Herbert Williams, Esq.	5	5	0
Conrad Wilkinson, Esq.	52	10	0
Mrs. Harper	1	1	0
Rev. Canon Duckworth	10	10	0
Empire Palace, Limited	3	3	0
Walter Hills, Esq.	5	5	0
Messrs. Ash & Co.	50	0	0
Wm. Coorse, Esq.	10	0	0
T. A. Rogers, Esq.	10	10	0
Dr. T. H. Miller	10	10	0
N. Miller, Junr., Esq.	10	10	0
John S. Amoore, Esq.	10	10	0
Fredk. Breese, Esq.	1	11	6
Morton Smale, Esq. (per Collecting Box)	4	19	2
Dr. R. T. Stack	10	10	0
C. Walser, Esq.	20	0	0
Messrs. C. Ash & Sons, Limited	50	0	0
Wm. Ash, Esq.	25	0	0
Dr. C. J. Hare	10	10	0
E. S. Hindley, Esq.	5	0	0
Chas. Hindley, Esq.	5	0	0
Colonel Battye	10	10	0
R. Winch, Esq.	25	0	0
Henry Kent, Esq.	10	10	0
Rees Price, Esq.	10	10	0
Somerset Beaumont, Esq.	20	0	0
C. S. Tomes, Esq.	50	0	0
Miss C. Lawrence	1	1	0
Mrs. H. Whiting	1	1	0
Mrs. Whitbourn	10	10	0
C. Whitbourn, Esq.	1	1	0
Miss Whitbourn	3	3	0
Donation Boxes at Hospital	18	12	0
Lady Tomes	25	0	0
Ludwig Mond, Esq., F.R.S.	10	0	0
Viscount Curzon	3	3	0

Acute Septicæmia of Dental Origin.

The particulars of a case of acute septicæmia of dental origin are recorded in the *Transactions of the Manchester Odontological Society* of recent date. The patient, a girl aged 14, was first seen on Saturday, April 10, and was suffering much pain. Examination of the mouth showed that three teeth, namely, the left first maxillary molar (the region of which was much swollen) and the first right and left mandibular molars necessitated extraction. The teeth were removed without difficulty, and the patient made an apparently quick recovery. Soon after returning home she was seized with severe headache, the symptoms becoming aggravated as the day wore on. The swelling too considerably increased, the left eye becoming ultimately closed, and the right side of the face also affected. The patient became completely comatosed. On the Sunday, about 10 p.m. streptococcus anti-toxin was injected, but failed to relieve the condition, death taking place on the Monday morning about 7 o'clock.

Vulcanite Dentures.

In a recent issue of the *Transactions of the Manchester Odontological Society*, Mr. W. Fisher, of Kendal, refers to the question of the discolouration of vulcanite dentures, and quotes the following case :—A patient (a lady) had a vulcanite upper made, the rubbers used being Bowspring and Ash's Ix pink. After wearing the piece about six months she returned and complained that it had gone quite black, and felt—as she said—as if it were covered with dry arrowroot.

The plate was re-polished, but she returned in a little over a month with it as bad as ever. It looked as though she smoked, but such was certainly not the case. The blackened surface was not polished, as is generally the case with smokers, and the plate was most discoloured on the surfaces next the palate, gums and cheeks, extending partly on to the teeth. There was also slight blackening on the surface next the tongue. The second time hydrochloric acid was tried, and the deposit completely dissolved. There was nothing to account for the discolouration in the mode of living, or the taking of medicine. In referring to the possible cause, Mr. Fisher said :—" It might possibly be caused by the presence of lead in the water, which is rain-water collected from the roof, as is usual in farm-houses. The patient says she cannot wear the plate as it is, and acting on the supposition that the presence of lead is the factor in causing discolouration, I have interviewed a patient, who is a plumber, and who is wearing a full upper vulcanite denture. I found that his remaining natural teeth were quite black. Many of his teeth had loosened and dropped out. He is a non-smoker, but on the other hand never uses a tooth brush. I found in his case that the vulcanite plate was blackened more or less on the palatal side."

Death from Chloroform given for a Dental Operation.

A death from chloroform given for a dental operation occurred at Rhyl on August 6. The patient, a Miss Mary Jane Kenrick, was 29 years of age. Accompanied by her aunt, she consulted Mr. E. W. Keatinge, to have teeth extracted, as she suffered considerably from swelling of the jaw. Chloroform was administered by Dr. Goodwin, the deceased being quite willing. After three teeth had been extracted, Dr. Goodman noticed the breathing hard and endeavoured to bring the deceased to, but failed. An inquest was held, when the jury returned a verdict that deceased died from misadventure, and they expressed the opinion that not the slightest blame attached to either of the medical men or the dentist.

Midland Branch.

PRELIMINARY ANNOUNCEMENT.

A meeting of the above Branch will be held at Doncaster on Saturday, October 23. Members having any subject of interest to bring forward will greatly oblige by letting me know at their earliest convenience.

10, *Museum Street, York.* THOS. EDWARD KING.

Southern Counties Branch.

The next meeting will be held at Reading on Saturday, October 30.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

The Annual Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—Owing to an oversight, the number of members attending the Annual Dinner at Trinity College was not adequately checked. Beyond those who took out their dinner tickets in the ordinary course, a certain number of members came to the dinner with the intention of paying in the Hall, but had not an opportunity of doing so. The Reception Committee would feel greatly obliged by these gentlemen kindly communicating at once with Mr. Pink, 40, Leicester Square, as they wish to close the dinner and other accounts as soon as possible.

I should also feel thankful to any members who received tickets for the Glendalough excursion, and did not use them, if they would kindly return the unused tickets to me.

Faithfully yours,
GEO. M. P. MURRAY.
Hon. Sec. Irish Branch.

10, *Hume Street, Dublin,*
September 3, 1897.

Pure Chloroform, or its Congener, Methylene, in Dental Surgery.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—Ever since the Hyderabad Chloroform Commission confirmed the truth of Dr. Snow's conclusion, that "death was alone caused by breathing air too highly charged with chloroform vapour," we were as thoroughly convinced as Snow was, that chloroform or methylene cannot be administered as Simpson recommends, *always* with perfect safety. Snow has shown from experiments on animals and from the physiological effects and physical properties of chloroform, that accidents from this agent would arise by its suddenly paralysing the heart, if it were not sufficiently diluted with air, and a careful review of all recorded cases of fatal accidents show that nearly every one of them has happened in this way, and not from any neglect in watching the symptoms induced or mistaken their import.

Being thoroughly convinced that by Snow's method alone can chloroform or methylene be administered absolutely free from risk, our endeavour has been to improve the means with which Snow endeavoured to effect the precise dilution of chloroform, in order to save administrators the horror and misfortune of losing a patient under chloroform or methylene.

Referring the reader to the examples given in your advertisement columns, careful comparison of the exceedingly small amount of chloroform found sufficient (under 1 per cent.), if properly administered, to cause perfect yet harmless insensibility to any short or prolonged operation, with the large quantities usually employed, cannot fail to lead to the conviction that the true anæsthetics, chloroform or methylene, are safer than the asphyxiants, ether and nitrous oxide gas, to short or prolonged dental operations.

Two interesting and instructive results obtained with chloroform by Dr. Beck, of Berne, Switzerland, in conjunction with a young colleague, administered by means of our regulating inhaler, support this statement. Dr. Beck writes: "I myself 63, my colleague 24 years of age, both of quite healthy constitution. We both took purposely, before the administration, our usual mid-day dinner. I (Dr. Beck), with my accustomed decilitre of wine; my colleague only took a glass of water. We narcotised each other to complete loss of corneal reflexes. The result was as follows: We both together took twenty minutes in using 3 cc. = 50 minims of chloroform, which amount sufficed for inducing in us both complete anæsthesia and loss of consciousness. In myself the anæsthesia lasted only five minutes, but in my colleague it lasted more than fifteen minutes. In myself loss of consciousness was produced without any symptom, but in my colleague it was preceded by incoherent talking. There was not the slightest sign of sickness during administration or during anæsthesia, only after awakening I felt a slight, rapidly-passing sense of nausea, but this feeling was somewhat stronger and more lasting in my colleague, but did not lead to vomiting." Dr. Beck further says: "Respecting the small amount of chloroform expended (on an average $2\frac{1}{2}$ minims per minute, or 0·57 per cent. of chloroform vapour in the air breathed), and symptoms of reaction, no one can object to describing the result as truly brilliant."

These results also show that anæsthesia lasts longer in young vascular than in elderly less vascular adults, and is induced with less chloroform, and quicker in the latter than in the former. They also prove that one application of the chloroform gives ample time for extracting teeth painlessly with due deliberation and care. The length of anæsthesia desired can also be induced at will. The more gradual and slowly the chloroform is progressively administered, the longer the anæsthesia will last, and the more rapid the progressive doses are given the sooner will consciousness return.

It is, indeed, difficult to understand wherefrom the supposed danger from chloroform can arise, when its administration, and therefore, its action, can be limited with ease and certainty, by a fraction of a minim to the small amount proved sufficient, when uniformly diffused in the blood, to cause deep yet harmless insensibility in any patient in a given time according to his age and strength. The time is near, when after fifty years' abuse of the power of chloroform for good, indisputable facts will cause dental and other surgeons to exclaim: "What dupes we have been to allow our patients being stupefied by asphyxiants, instead of causing true and harmless anæsthesia with pure chloroform by the cautious, slow progressive, systematic method taught by Dr. John Snow, the first and highest authority on anæsthetics the world has and ever can produce."

London, KROHNE & SESEMANN.
August 28, 1897.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 10. OCTOBER 15, 1897. VOL. XVIII.

Science by Statute.

In our contemporary, the *British Medical Journal* for September 4, we notice the following paragraph :—

"The Use of Poisonous Substances in Dentistry.—A Bill on this subject is to be submitted to the General Court of Massachusetts. The following are its provisions :—Section 1. The use of any of the amalgams of mercury as a filling for dental cavities, or the use of red or pink rubber plates which contain mercury or any of its compounds, is hereby prohibited. Section 2. Any dentist who shall violate the provisions of this Act shall be punished by a fine of not less than fifty or more than one hundred dollars, or by confinement for a period of three months in a county gaol, or both, for each and every offence."

Truly this is an astounding example of paternal legislation, or at least of an attempt at it, and it is the more striking as hailing from a country where freedom is supposed to reign paramount. In this country it is difficult enough to procure legislative enactments even upon points on which the whole medical profession is in entire agreement, and in directions calculated to confer the utmost benefits upon the public, supposing the medical profession not to be all in the wrong, but here the matter in question is in quite a different category.

There are just a few dentists, we suppose, who imagine that mercury in the mouth in the form of an amalgam, or as the colouring matter of red india-rubber, may be capable of exerting its influence upon the individual; and it is sought, not to convince dentists by adequate evidence that such is the case, but to impose the views of an infinitesimal minority by legislative enactment upon their fellows. It reminds us of the rule once in force in some of the American dental Societies, which excluded from their ranks any one who had ever used amalgam. Neither red rubber nor even amalgam are absolutely indispensable in dental practice, and if it could be shown that ill effects followed their use, every intelligent dentist would at once abandon them. But how can the "General Court of Massachusetts" judge of the value of the evidence on such a matter? And even granting that some sort of evidence were forthcoming, what would be thought of a Bill to prohibit the use of iodoform or of antipyrin, or of carbolic acid, because all have, beyond a doubt, occasionally produced poisonous effects?

That such an attempt should be seriously made leads us to say a word upon the evidence available against these substances. Some years ago a hospital physician, since dead, brought before the notice of the Odontological Society of Great Britain a number of cases of alleged mercurial poisoning caused by red vulcanised india-rubber plates, all of which had occurred in his own practice. The

Society, recognising the great importance of the subject, appointed a committee to collect evidence and report upon it; the result was that, in response to circulars sent broadcast to dentists, not one single case could be found which bore investigation. The Hon. Sec. of the Society personally investigated several alleged cases, and on one occasion travelled a considerable distance to examine what was stated to be a very marked and typical instance of local irritation attributable to the use of red vulcanised india-rubber plates. His report was that all the described symptoms were there, but that there was dirt enough to account for all abnormal conditions, and it was also clearly shown that all the phenomena upon which the physician had relied were equally to be found under black rubber plates, and even under gold plates.

As the irritation appeared most commonly where want of cleanliness was conspicuous, it was not surprising that it was more common under vulcanite plates, inasmuch as the out-patients of hospitals are not on the whole remarkable for their cleanly habits; besides this it is well known that when plates are not sufficiently long and often out of the mouth, the non-conducting nature of the rubber may lead to a sort of poulticing of the surface on which it rests, but this is very far removed from mercurial poisoning.

With respect to amalgams, recent investigations show that under some circumstances copper amalgams do undergo disintegration in the mouth, and that free mercury may in these circumstances be detected on their wasting surfaces. It does not, however, follow that this free mercury is potent to do any harm; if it passed into the stomach it would probably pass through unaltered, or if acted upon by the acids of the gastric juice would merely amount to a dose or two of calomel distributed over years.

Ordinary amalgams, however, hold their mercury more closely, and do not part with any at ordinary temperatures; they are chemical compounds, though perhaps of a loose kind, and it is almost inconceivable that they can produce any effect, some funny experiments published in America some years ago notwithstanding, in which confinement with pieces of fresh amalgam is said to have been deleterious to the health of cockroaches. In Tomes' "Dental Surgery" there is also an American case quoted as having been set down to mercurial poisoning, which was, on the recorded symptoms, as clear a case of arsenical necrosis as was ever met with.

In England Mr. Jonathan Hutchinson entertains the view that amalgam fillings may, by setting up some form of irritation, be responsible for some cases of leucoplakia of the tongue; but the evidence in favour of this view is very small and it does not appear to have any other adherent, and if amalgam fillings were a cause of leucoplakia that disease would be much more common than it now is. It is equally common where there are no amalgam fillings in the mouth, and where the two do co-exist the distribution of the abnormal patches is not such as to support the idea of any relation of cause and effect. It is safe to say that there is no evidence on record which can for a moment satisfy the requirements of scientific accuracy that mischief has been traced to amalgams, and to borrow again from Tomes' "Dental Surgery," "with the advance of liberal education which will ensure to the dentist some degree of acquaintance with collateral subjects such as physics, chemistry and therapeutics, we shall hear no more of this bugbear."

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Western Counties Branch.

A COUNCIL Meeting of the above was held at the Grand Hotel, Plymouth, on Saturday, October 2, at 3 p.m., Mr. HENRY B. MASON in the chair. Messrs. W. A. Hunt, J. T. Browne-Mason, E. L. Dudley, T. Taylor Genge, E. Goodman, J. J. H. Sanders, E. Brown, and T. A. Goard were also present.

Letters regretting absence were received from Messrs. Rogers, McAdam, Apperley, Harding, Kendrick, Helyar, and Laws.

The minutes of the last meeting were read and confirmed.

The HON. TREASURER had no fresh report to make; but asked permission to pay some accounts. This was granted.

Mr. G. Willcox Jones (Bath) was elected a member of the Association and the Branch.

Arrangements for the Annual Meeting of the Association at Bath, by invitation of the Branch, were then considered. It was resolved to invite subscriptions from the members towards a Reception Fund. It was resolved to hold a special meeting of the Branch and Council at Bath early in January.

Two cases reported to the Council for infringement of the Dental Act were discussed.

At the ordinary meeting of members Mr. Hunt showed a model of five perfectly formed lower incisors in a child of twelve years.

Mr. Genge showed models of the effect on the bite through extraction of the first permanent molars and a lateral incisor from the lower jaw, without any treatment of the upper. The lower incisors bit far inside the uppers, the lower jaw had contracted, and the disfigurement was very marked.

Mr. W. H. Goodman showed a model of the upper teeth of a boy (aged 7½) born with hare lip on the left side, and who was successfully operated on when about three weeks old. The left central incisor was shown erupting in a very abnormal position, lying horizontally, with the cutting edge looking posteriorly, and the "mesial angle" upwards and forwards, the latter causing severe ulceration of the lip before the patient came under observation. The tooth was extracted.

He also reported the following case of the death of a pulp caused by a wasp sting in a patient (lady, aged 21) whose teeth were almost free from caries, and were all of good appearance when seen in July, 1896. In August of that year she was badly stung by a wasp in the palate, behind the right upper lateral, while eating some fruit. Severe inflammation ensued, the incisors and canines being very tender for several days, the right lateral especially so. The latter, when seen in August of the present year, was very much discoloured, and on examination the pulp was found to be quite dead. There were no signs of caries nor any history of an injury or a blow.

Midland Counties Branch.

A MEETING will be held at the Elephant Hotel, Doncaster, on Saturday, October 23, at 6 o'clock in the evening.

PROGRAMME.

Adjourned discussion on the paper read at the Annual Meeting on "The Dental Prosthesis of Edentulous Jaws," by Alfred Cocker, L.D.S. (see p. 503, August number of the Journal.)

Paper by Thomas Gaddes, L.D.S., "How we can best Assist the Association in maintaining the provisions of the Dentists Act," after which the following resolution will be proposed :—

"This Branch is of opinion that Parliament should enact that it shall be illegal for an unregistered person to practise dentistry for gain, and the Branch desires its Council to consider and report upon the best means to accomplish that purpose."

CASUAL COMMUNICATIONS AND DEMONSTRATIONS.

"Salivary Calculus in the Parotid Duct causing symptoms simulating Alveolar Abscess," by T. E. Constant, M.R.C.S., L.R.C.P., L.D.S.

"Artificial Denture replacing excised lower jaw," by A. A. Matthews, L.D.S.

Some impressions illustrating the regulation of teeth by torsion, by Frank Mordaunt, L.D.S.

"Removal of unerupted bicuspids previous to regulation," by Norman Washbourn, L.D.S.

Some ancient dental forceps, by J. H. Carter, L.D.S.

Demonstration of the working of an oil furnace, by C. Stokes, L.D.S.

The Röntgen Rays, by Thomas Cuttriss.

Tea will be provided for the Members at 5 o'clock (2s. 6d. each.)

OBJECTS OF INTEREST.

The Parish Church, a fine specimen of architecture by Sir Gilbert Scott, with its fine organ.

The celebrated Race Course and Town Moor.

Splendid Cycling Roads.

THOMAS EDWARD KING,
Hon. Sec.

10, *Museum Street*, *York*.

Metropolitan Branch.

A MEETING of this Branch will be held on Thursday, the 28th inst., at the National Dental Hospital, at 7.30 p.m. Demonstrations will be given by Mr. J. H. Gartrell and others, and some electrical apparatus will be shown and explained. Council meeting at 7 p.m.

W. H. DOLAMORE, *Hon. Sec.*

Eastern Counties Branch.

NOTICE.

THE Annual Meeting of the above will take place on Tuesday, October 26, at the Norfolk and Norwich Hospital, Norwich, Mr. Bosworth Harcourt, President, in the chair.

BUSINESS.

Council Meeting at 10 a.m.

General Meeting at 11; various addresses and papers will be given.

Luncheon, by invitation of the President, at 2, followed by Demonstrations, and including (if time permits) a visit to the chief places of interest in the city.

Dinner at 6.30.

N.B.—The mail train leaves Norwich at 10.25 p.m., thus allowing members to return home the same night.

A. HOPEWELL-SMITH, *Hon. Sec.*

Southern Counties Branch.

THE next meeting will be held at the Town Hall, Reading, on Saturday, October 30.

2 p.m.—Council Meeting.

3 p.m.—*Papers*—"Buttner Crowns," by J. H. Reinhardt; "Some Practical Points in Vulcanite Work," by E. Lloyd-Williams. Casual Communications.

6 p.m.—Dinner at "The Queen's Hotel." (Tickets 4s. each.)

Members intending to be present are requested to notify the Hon. Sec. by October 25.

FRANK V. RICHARDSON.

Central Counties Branch.

PRELIMINARY NOTICE.

THE next meeting of the Central Counties Branch will be held on Thursday, November 11, at the Dental Hospital, Birmingham, when a paper will be read on the subject of the Dublin meeting, by Mr. J. T. Craig, of Leicester.

A. T. HILDER, *Hon. Sec.*

83, *Edmund Street,*
Birmingham.

THE ANNUAL GENERAL MEETING.

The following demonstrations were given at the Annual General Meeting, held in Dublin, August 17, 18 and 19.

(1) The Pearsall Moulding Flask, and (2) a Method of Making a Deep Counter Die, with all the Advantages and none of the Disadvantages of a Shallow Counter.

By R. P. LENNOX.

(1) Mr. Lennox demonstrated the casting of dies and counter-dies for plate-work, using the Pearsall sand-moulding flask, by means of which a die is obtained reproducing the model with a strong cone at the back of it. The advantages of such a die were pointed out. In the course of making the die Mr. Lennox showed a simple and safe method of withdrawing the model from the sand. Dropping a little wax on the back of the model he applied to it a heated metal disc (a farthing), with a similar disc soldered upright to the back of the first disc to form a handle, and by means of this he lifted the model from the sand. Onlookers appeared to appreciate this method highly.

(2) Mr. Lennox next showed how he makes his counter-dies so as to secure in one counter the advantages of deep and shallow counters combined. He wrapped a roll of modelling clay along the line of the edge of the desired plate and dipped the die far enough into the molten lead to fully cover the clay, and then showed how readily a plate somewhat larger than was actually required could be passed into the counter. He then went on to show the working of a swaging hammer introduced by Mr. Charters Birch, of Leeds.

Dowel Crowns on Five Front Teeth.

By ALFRED JONES, L.D.S.I.

Mr. Jones demonstrated the Lennox method of obtaining a cast of the root faces of five anterior teeth with metal-lined reproductions of their canals, and that with but one impression. The demonstration was suggested by a case in practice, the actual model for which was shown as a striking example of what could be done by the method to avoid working at the mouth. A line of fracture appeared in one of the root faces on the model which had not been previously detected in the mouth.

An Apparatus for Correcting Irregularities in Position of the Teeth.

By E. A. ANGLE, D.D.S.

Dr. E. A. Angle's demonstration in Orthodontia consisted in the application to the mouth of a patient of the apparatus which bears his name. The case was one in which the first permanent molars had all been extracted for caries, and where, in the absence of grinding teeth, the lower permanent incisors had become outlocked with the uppers as these erupted, only the left permanent central occupying its normal place in biting, *i.e.*, outside; the lower incisors were displaced outwards as much as their opponents were inwards. The only teeth in the upper jaw were the four incisors and four bicuspids; the patient being but 8 years old the second molars had not made their appearance. In the lower jaw the four incisors and a temporary right canine were all the teeth present. Dr. Angle used the second upper bicuspids as anchor teeth, and to them secured the ends of his appliance. He next polished the enamel of the teeth, to which he fitted bands—made beside the chair—and cemented these in place, explaining during the operation how the application of force by his wire ligatures would act in reducing deformity. The point upon which he dwelt most strongly was the necessity for restoration of normal occlusion. In reply to questions he explained his classification of mal-occlusion, and how in the different varieties his different forms of apparatus acted. The patient was handed over to the Demonstration Secretary, who will report it on the completion of treatment.

On another patient Dr. Angle applied his fracture splint to a supposed fracture through the symphysis of the mandible: he further explained modifications of the splint to be used in fracture at other points in the jaw.

A New Form of Crown.

By S. G. REEVES, L.D.S.I.

The method adopted by Mr. Reeves for making and fitting porcelain and platinum crowns is as follows:—

After the destruction of the pulp, the canals are thoroughly cleansed; and the pulp chamber, by the aid of burs, made perfectly square and very much enlarged, so as to give free access to the canals, which are also enlarged by the use of Morey drills. The nerve canals are then sterilised with "acid sulp. arom." and hot air, and filled with fossiline and iodoform, this being done with the aid of the rubber-dam and the pulp chamber and crown filled with temporary gutta-percha.

The patient is then dismissed for a few days with instructions to return at once should any pain or soreness occur during the interval.

Upon the return of the patient, and all being well with the tooth and surrounding parts, the operation of crowning is commenced by squaring up the external or neck portion of the tooth, and if necessary by further enlarging the square of the pulp chamber. This step being completed, a piece of thin *soft* platinum is then fashioned up to the shape and perfect fit of the square chamber, either in the mouth or on a model. A ferrule is then made "also of platinum" to enclose the external portion or neck of the tooth; the two parts are then removed and soldered together with pure gold, so as to form a cap, which is then replaced and malleted home so as to obtain a perfect fit upon the tooth substance. A bite with the cap in position is then taken. A fair margin of platinum is left below the cap, thereby forming a chamber wherein the building up of the porcelain part is then commenced; Ash's high fusing body, with the help of Dall's furnace being used, three firings generally being found sufficient.

An Improved Gas Furnace.

By J. H. GARTRELL.

Mr. Gartrell demonstrated a continuous gum and crown gas furnace of his own design. A full upper set was fired in about ten minutes starting cold. The nickel muffle in this furnace overcomes all the difficulties of "gassing." The heat inside the muffle being as pure and free from the products of combustion as in the electric furnace, and the new combined Bunsen and gas burner produces the heat required with so little effort and noise, and the apparatus is so simple and convenient, that it is claimed to be superior for continuous gum work to the electric furnace.

A Shot Swager.

By J. H. GARTRELL.

Mr. Gartrell exhibited a shot swager also of his own design. The method of lining impression with sheet tin, swaging, trial pattern and polishing plates for vulcanite work is done so readily, that it promises a completely new and improved process for the laboratory. One feature in the process is casting dies in a new fusible metal into plaster or composition impressions. The dies are very accurate and nearly as hard as zinc, and separate readily from plaster impressions where there are no undercuts, and if the rim of the impression should break on account of undercuts they can be replaced, enabling the impression to be used again for lining with tin after it is prepared by swaging on the fusible metal die with shot. These dies are also used for swaging platina plates for continuous gum work with shot, one die only being required. The plates fit better than when struck up with a hammer, the pressure of the shot being distributed evenly over the plate.

The Use of Three-part Flask in Vulcanite Work.

BY E. LLOYD-WILLIAMS, L.R.C.P., M.R.C.S., L.D.S.

MR. E. LLOYD-WILLIAMS showed a three-part flask of his own design, and advocated its use as affording compensation for expansion of plaster (thus avoiding raising of the bite); facility of packing in all cases, however difficult; the non-mixture of base and gum rubbers; and stability of teeth whilst packing. The latter feature was secured by a method of covering irregularly the exposed surfaces of the teeth *before* flasking with an oxychloride of zinc or other cement, the rough surfaces being well secured in the investment.

Repairing a Crown on a Central Incisor.

BY WILLIAM HELYAR, L.D.S.I.

IT was intended to recrown a central incisor root that was crowned with collar, pin, and solder-backed tooth about six years ago, the root having elongated and the gum receded; but the fixture was so strong that it was impossible to move it. The rubber-dam was then applied, the tooth broken, and the labial portion of the root was cut up to the gum margin. A new tooth was fitted into position, the surfaces roughened, and the pins of the tooth tapered. The two were then cemented together and the pins bent towards the cutting edge.

Cataphoresis.

By JOHN STANTON, L.D.S.I.

First patient treated had a very imperfect amalgam filling removed from the mesial surface of the left maxillary second molar. The patient could not tolerate the slightest touch of an instrument, much less cold water, a drop of which injected into cavity caused intense pain. The electric current was applied from one of Mr. Cottrell's cataphoric apparatus, the agent used being a 30 per cent. solution of cocaine in absolute alcohol. After an application of seven minutes the tooth was excavated and cold water injected freely without any discomfort to the patient.

In the second demonstration the patient had a small, shallow cavity on the buccal surface at cervical edge of a mandibular first molar. He was a dental practitioner and had postponed operation on account of the intensely painful nature of cavity, and only submitted on the assurance that it would be done painlessly.

Again a 30 per cent. solution of cocaine was used, and ten minutes of a very weak current allowed to pass. The cavity was then excavated to a considerable depth, though not sufficient to remove all decay, when the pain began slightly. The pain was not sufficient to interfere with completion of operation, yet for the sake of demonstration it was decided to renew the application of current for three minutes. The operation was then brought to a successful termination.

The French National Dental Congress.

The French dental journal *l'Odontologie* now appears twice a month. We gather from this journal that the National Dental Congress is to be held in Paris this year, and takes place on October 28, 29 and 30. M. Damain, the director of the Ecole Odontotechnique, has been elected honorary President of the Congress. From the support promised, and the papers which have been announced, it is expected that the meeting will be a great success. The subscription is fixed at 15 francs. Those desiring to take part should address themselves to M. de Marion, 138, Boulevard de Haussman, Paris.

Original Communications.

Some Factors which cause Eruption of the Teeth.*

By DENCER WHITTLES, L.D.S.Eng.

Many causes have been assigned to account for the eruption of teeth, and amongst them may be enumerated lengthening of the root, contraction of the dental sac, bone currents, and more recently the blood pressure has been brought to bear upon the expulsion of these organs from their bony crypts.

Evolution throws much light upon the most complex structures, if we compare present highly organised creatures with the lower forms of life, which may only possess lips or stomata for the prehension of food, and of course these openings would possess some form of touch corpuscles contained therein, and so in process of time these, owing to the altered environment and change of habit, become specialised and hardened by calcification, and which epidermal appendages we call teeth.

The sources of tissues which afterwards become calcified are two, namely, epiblast or *ectoderm*, and mesoblast or *mesoderm*. The former tissue covers the whole surface of the body and those tracts which have communication with the outside of the body.

Some may take exception to this statement that all epithelial tissues are without the body in their normal position, just because nervous matter is epiblastic in origin. I surmount that difficulty, perhaps wrongly, by viewing the whole arrangement of the central nervous system doing its utmost to get outside by sending the innumerable peripheral nerves to the surface of the body, and its ganglia being only kept in by the hard unyielding walls of the cranium and spinal column, although its early presence has produced the many foramina for the exit of its numerous branches, which are maintained until the bones turn again to earth.

Mesoblastic or connective tissue-forming element of the blastoderm gives origin to the whole of a tooth with the exception of the enamel, and its skin, and the nerves of the pulp (or a better term would be " dental papilla").

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* Read at the Annual General Meeting held in Dublin, August 17.

When the primary inflexion for the enamel organ forms it is identical with a simple gland found in other parts of the body, and this inflexion takes place at a time when the balance of power for growth is in favour of the epiblastic element, which at this time is in great preponderance, and having made sufficient invasion of the mesoblastic area, this latter attempts to repulse it by building an earth work by the agency of the connective tissue cells in the papillary army governed by the numerous generals and *aides-de-camp*, who are familiar to us as the odontoblasts and their neighbouring cells.

After such elaborate means have been taken to drive off the enemy, further earthworks are substituted by solid masonry, free communication by protoplasmic fibrils, through tubuli to afford strength, and so further invasion is prevented, for you will remember dentine calcifies first.

In reviewing the works of nature, it is in my opinion advisable to judge the causes of the various phenomena simply as "means to an end."

It is a generally accepted theory that teeth will not form without the inflexion of the Malpighian layer of cells, although no enamel may be formed on the surface of the dentine; but the epithelial cells will be there, so that the presence of enamel on a tooth (as a foreign body) is insufficient to account for its being ejected to the free surface of the oral cavity or body. Yes, body surface, it does come out sooner or later, and the fact of its being calcified and covered with epithelial cells, which may only be a single layer, or these afterwards becoming specialised as a highly formed tooth, according to the requirements of its owner, into ameloblasts, stratum intermedium, stellate reticulum, and external epithelium to furnish enamel in varying proportions.

One of the earliest examples of an inflexion of epithelial tissue takes place in the human ovary, which may be described briefly as consisting of fibrous tissue, with blood vessels, &c., and is covered by a layer of columnar epithelium. The ovules, or immature ova, are developed during fœtal life from cells which come from this germ epithelium, as it is called. They get into the interior of the ovary by a process of down-growth of this germ epithelium and subsequent isolation. As the ovule matures it sinks deeper into the ovary, but in the later stages it comes quite close to the surface, and eventually the Graafian follicle ruptures, and the mature ovum escapes from the ovary, to be conducted down the Fallopian tube to the uterus. Its ultimate destination, whether impregnated or not, is the *exterior*. The whole process bears analogy to the inflexion of the oral epithelium, with the subsequent cutting off of the tooth germ and final eruption to the surface.

The development of the ovary shows the intimate bearing which epithelial tissue has upon connective tissue. The *first sign* of the ovary is a heaping up of epithelium at one place. Subsequently, underneath this arises the connective tissue of the ovary, and this forms the bulk of the organ, while the epithelium covers its exterior with the exception of the ovules, which have come to take a place inside the ovary by a process of ingrowing and isolation.

To make myself clear, it will be advisable to consider the mode of growth of a tooth after the cap of dentine has formed until the completion of the root, and which may be described as dental anabolism or constructive metabolism; and secondly, the removal of those tissues around the dental germ to allow of its escape, which may be conveniently called dental follicular katabolism or destructive metabolism.

It is not necessary for me to weary you with a description of the various dentines, so let it suffice for me to draw your attention to the presence of a number of large cells (larger than seen elsewhere) containing proportionately large nuclei, at the base of the dentine papilla, from the sides of which arise the two cornua of the dental sac. These, you will observe, contain nuclei almost as big as themselves, which, taken together, suggest that they are capable of great metabolic energy. To my mind, these are the cells which propel the tooth forward until the crown is quite through into position in the case of a simple rooted tooth, or in the case of a tooth of persistent growth is being kept constantly moving forwards. It is not necessary to mention those teeth whose attachments are by means of a fibrous membrane or bony ankylosis, as these two are only modifications of the simple socketed tooth, like those of man.

I believe it is generally admitted that low formed cells, generally of the round variety, possess much activity, and to give a homely simile from the vegetable kingdom, *e.g.*, fungi, these are capable of displacing very heavy stones, simply by cell division, also splitting of the bark in trees.

To return to these deep, large papillary cells and the power of force shown by them, let me remind you what occurs if by chance opposing incisor teeth of the rodents become injured, and which condition is illustrated in the current number of the *Strand Magazine*, is not at least so infrequent as stated there. Our college specimens show where the inability to obtain food resulted in the death of the animal. If from mechanical cause, such as an overcrowded mouth, want of symmetry between teeth and jaws, a tooth is unable to erupt until the root is complete, there is much less probability of its getting into a proper position, unless the alveolus by an interstitial growth can remedy the want of propulsive force, as instanced in some cases where temporary teeth have been retained, and yet come into occlusion with the permanent teeth; and again, we all know that teeth with stunted roots do erupt, and when suspected, where a crown is afterwards required, it is well to observe the finger-nails of your patient, as I find that both appendages agree to a considerable extent in quality and quantity of growth.

In furtherance of the argument, though perhaps you will not admit is a strong one, that these large cells are pushing up the whole dentine organ, it follows that the formed dentine will also travel in the direction to which the tooth crown is to occupy; such movement may give rise to the flattening of the ends of the enamel prisms, from which we can see Tomes' processes emerging. Should not such a movement have a tendency to consolidate the enamel, for this does not commence to form until the dentine has commenced to calcify, and at this time the forward movement on the part of the mesoblastic tissues may take place in its efforts to drive out the invading ameloblasts, cells specialised from the epithelium.

I have an idea that there are some phenomena occurring during the life history of an organism, which I can only, for the want of a better term, call *physiological* irritation, as opposed to that of a *pathological* character, which would be associated with some form or other of inflammation.

I will take the physiological aspect first, which is only a means to an end: if no primary inflexion of epithelium, then no tooth will be formed; the mesoblastic tissue must be irritated to form its dentine, and subsequently the tooth will erupt, and without enlarging upon the subject, pass on to the pathological aspect.

If from some cause or other, say prolonged irritation of the submucous tissue of the tongue from the ragged and sharp edges of a tooth, specially in the bicuspid region, the mesoblastic tissues become so lowered in vitality that they are unable to prevent the inward growth of epithelium, in other words, the balance of power for growth has been lost to the submucous tissue, and the surface epithelium has taken advantage of its neighbouring tissue's infirmity and proliferates in all directions, and we have one of the varieties of cancer.

Another example, but more particularly to illustrate the force produced by multiplying cells, is the method by which dead bone, after separation by ulceration of further loss of living bone, is brought to the surface of the body, not unlike the mode by which a tooth, whose enamel cap stands in a similar relation; and although enamel may not be present in sufficient quantity to be recognised, even microscopically, there must necessarily be the skin of the tooth, which we have chosen to call Nasmyth's membrane, which is now affirmed to be of epithelial origin.

Still one other example, and that is the enormous amount of bulging which occurs between the inner and outer walls of a mandible, when such is affected with myeloid sarcoma; this bulging is entirely due to an increase of growth of large cells not unlike the cells which I have called your attention to as causing the propulsion of a tooth from its osseous environment.

So, to sum up these respective cells, which may be similar owing to their power of rapid development and of propulsion, *i.e.*, the new formation cells of granulation tissue, myeloid cells, basal dentine papillary cells, and in fact most connective tissue cells of an anabolic character.

In the earlier part of this paper I mentioned the comparative balance of power for growth of epiblastic and mesoblastic tissues, and at this point it is convenient to remind you that when the various glands, whether mucous, sweat, mammary, &c., are formed, there is always a preliminary heaping up of epithelium before invasion of the mesoblastic tissue by the aforesaid takes place, and it seems as though it was necessary to occur, to enable the Malpighian layer to obtain sufficient force to make its raid upon the bordering territory, since the power for growth in this early embryonic state is in favour of the epiblastic layer, otherwise there would not be any formation of the numerous cavities and canals which we find associated with the head and face, which are produced by the early invagination of this tissue.

Another instance of the force of power for growth is the early aberration of the enamel organ, which causes great distension of the bony structure, and was known to earlier surgeons as a tumour of an epithelial multilocular cystic variety. It has occurred to me whether that peculiar form of head, sometimes associated with rickets, and known as hydrocephalus, is in any way similar to an epithelial odontome, and it is due to that want of harmony which should exist between tissues, as the bone seems scarcely able to keep the cerebro-nervous system within bounds, and the consequent pressure might lead to the increase of cerebro-spinal fluid, due to the breaking down of its cells.

Assuming that the tooth in process of formation has commenced to move towards the surface of the body, whether it is a free surface or partially closed like the antrum and nasal cavity, or may be at the angle of mandible on the outside, —for it will erupt sooner or later, unless there is a stronger force to prevent it—how is the direction determined and how shall sufficient room be made for the passage of the crown in the case of a tooth of limited growth, or the continuous renewal of a persistently growing tooth ?

In each case the first eruption is probably carried on in a similar manner.

The tissues between the forming tooth crown and the oral surface consist chiefly of the enamel organ, the inner and outer walls of the tooth sac, bone, and muco-periosteum.

Now, most teeth before eruption have one or more points upon them, probably to assist this much discussed process, and it is frequently observed that the lower central incisors in *genus homo* occupy less time in their eruption than the other remaining teeth of the series ; the question naturally occurs, why should this be ? is it that sufficient room having been made by a method to be described later, that the transverse diameter of the biting surface is more out of proportion with the neck when compared with other teeth. The opportunities that a child has for applying gingival massage to the mandible by making it a lever of considerable power, induced by nerve irritation, such irritation being only a means to an end, and to produce atrophy of these tissues between the almost completed crown and the surface of the oral cavity.

We have all observed in our experience that the cells forming the wall of the dental sac can either build up or pull down the structures they are destined to be associated with, as instanced in exostosis and absorption of the roots of teeth.

Whilst the enamel organ is in contact with the dental sac, after a certain amount has been calcified, absorption begins to take place in the neighbourhood of the forming crown, and from my observation have noticed that when absorption is going on the blood vessels in the immediate vicinity are much more dilated than when a deposition of tissue is taking place elsewhere, and in the case for a passage being made for the erupting tooth, such dilated vessels anastomose with those supplying the stellate reticulum, which I believe to this being a ready market for the lime salts in the enamel organ only just taken from the bone by those cells having taken on an absorption function.

Supposing, now, that the bone has been removed by these osteo or cemento-clastic cells, there is only the muco-periosteum to be removed; this is probably subjected to atrophy on account of the pressure cutting off the nourishment from below, and the separation of those two epithelial layers of cells, now atrophied, open sufficiently wide to allow the tooth to escape, and the portion of free epithelial tissue with a little mesoblastic material from the extreme tips of the dental sac now form the little elevations or dental cushions seen between and around our teeth.

The atrophied neck of the enamel organ, termed the gubernaculum, has kept back the mesoblastic tissues, and if we examine young dry mandibles it is easy to find a number of holes behind the temporary teeth; this band of tissue was supposed by the older anatomists to pull up the tooth when ready; it may serve as an aid to the process by keeping patent a small orifice for the evacuation of the tooth, and it has occurred to me whether the obliteration of this gubernaculum is the direct cause of that variety of odontoma we commonly describe as dentigerous cyst.

The supposed contraction of the tooth sac has been brought to bear by some writers as a method of eruption; if this is so it is difficult to account for the dilated sacs not infrequently found calcified in follicular odontomes. Where teeth of persistent growth occur, especially those whose position is maintained by their curved shape, the contraction of the dental sac would serve little purpose, as it is found that the older the animal grows, the greater the calibre of the still growing tooth, so that there is always some osseous tissue to be absorbed before they can be pushed outwards; these are well illustrated by the incisors of the elephant and rodents, and canines of many others.

In my opinion the only way that the tooth sac can assist the first passage out of any tooth is very much like the driving of a wedge, just as the fœtal head dilates the os uteri previous to its expulsion.

I shall now only briefly touch upon some causes which hasten or retard the eruption of teeth, as I fear that I have already over-taxed your patience by recapitulating much which is already known to you.

The disease of a specific character, unfortunately only too well known to us, and which all practitioners in our art should be familiar with, so far as recognising its presence in others, I refer to syphilis. How is it that it should hasten eruption? Is it that there is increased tissue change and the toxin product acts upon the formative cells of the dentine organ, especially those which propel the tooth to the surface; it can scarcely be due to the increased activity of the epiblastic element, otherwise there would not be a notched incisor to be seen. Can the pressure produced from below be sufficient to cause the typical Hutchinsonian tooth, and whether the pegtop-like appearance is due to the increased activity of cells composing the dental sac pressing upon the last portion of enamel to be formed.

These suggestions I leave for you to discuss.

In rachitis we find that there is protracted eruption of the teeth; this may be due to want of energy on the part of the connective tissues so much concerned in the propulsion of our dental organs; some ascribe its cause due to a thickening of the tooth follicle, which probably is caused by a fibrous degeneration of those cells which should in a normal organism remove the overlying tissues, for we find that when a section of a rachitic lower jaw is examined microscopically there is almost an absence of lamellæ, large irregularly formed Haversian canals, few osteoblasts and these irregularly arranged, whilst there is a large proportion of fibrous tissue.

Before finishing this fragmentary paper which you have considerately listened to with much forbearance, allow me to call your attention for only a few moments, how great the force must be to propel such a tooth forward as found in the male narwhal, especially as it has to be forced out in the form of a spiral; such an arrangement of course prevents pressure from without (when used as a weapon of offence) upon the formative elements, and the same condition, but in another way, is exemplified in the canines of the *sus babirusa*, which before now have been forced into its cranium; upper canines of the walrus, the upper incisors of the elephant, &c. These are a few examples of continuous forcible propulsion of teeth not affected by much wear.

In the case of persistent teeth, either completely enveloped in enamel, or partially so, or entirely covered with cementum, it is easy to understand that there is little or no difficulty in the former leaving its tooth socket; in the latter, where cementum forms the outside covering, this must practically become a foreign body as soon as it is forced beyond the environment of its vascular membrane, as it is so well seen in the molars of the horse, whose long molars continue to rise for a long time after their first appearance; and, moreover, they are not teeth of persistent growth, yet their continued elevation is probably brought about by the extreme depth to which the inflexion of the enamel band has gone, and the persistent energy of the mesoblastic tissue to expel it. This, again, points to what I have termed physiological irritation.

A Few Considerations on the Leptothrix Buccalis.

By T. CHOQUET, D.E.D.P. (Paris.)

In a paper presented in my name and in that of Mr. Grimbert at the Dental Congress held at Bordeaux in 1895, I mentioned, among the microbes I had succeeded in isolating from the mouth at the same time as the coli baccillus, the presence of a leptothrix buccalis. The separation and the obtaining in pure culture of this microbe was effected by the use of the phenicated bouillon, which Dr. Peré had suggested for the study of the coli bacillus. Since then I have continued my researches, and I have to-day the honour to submit to you the few observations I have been able to make.

By the method of the phenicated bouillons one can isolate in pure culture from the buccal cavity several species of leptothrix, differing from each other either by their biological and morphological nature, or by their chemical reactions. But, first of all, what has until now been and is still understood by the denomination of leptothrix ?

Among the numerous species which Leuzzenhœck was the first to discover in the saliva (though at that period the microscopic investigation was no easy matter), he had signalled the presence of a segmented thread of great length and without movement, or rather, presenting an almost imperceptible oscillating motion. Robin had studied this microbe and had at last given a good description of it from a purely microscopic point of view. It is this author who first attributed to it the genesis, the formation of the other microbes which are met with in the mouth.

This theory has been taken up some years since by a learned Italian, Filandro Vicentini. While rendering due honour to the care taken by him in his experiments and researches we cannot partake in his ideas. There may be some truth in the theories which he maintains, but bacteriology is a science of too recent date, and until the contrary be proved we shall consider the leptothrix as a peculiar species, a pure species.

According to the definition given by Professor Flügge, the species which interest us belongs to the leptothricæted class, and show filaments with or without sheath, the division of which does not extend far, and of which the cells do not contain any sulphur. These filaments are sometimes isolated, at others grouped in bunches, in tufts, entangled in each other, as one can see in examining certain advanced carious cavities, the walls of which are sometimes lined with these tufts.

The direction of these filaments is not always straight, it is even slightly waving. According, too, as one has to do with one or another kind cultivated in a nutritive medium, or in a different one, one will find oneself in contact with thin and lengthy filaments, or with short and thick ones.

The leptothrix are easily stained by most staining agents. They take the Gram's method, which imparts to this microbe a fine black-violet tint. On attentive observation of certain species, spores in course of formation may be distinguished.

The following is the receipt for a staining solution which I have made, and which, when followed by impregnation, according to Van Ermengen's method, shows very distinctly the spores of the leptothrix buccalis, and of most microbes growing by sporulation :—

Victoria blue	gr.	0·25
Methylene blue	,,	0·25
Absolute alcohol	,,	25·00
Distilled water	,,	125·00

When the preparation is fixed on the glass slide a few drops of the above solution are poured on, and one can, if one wishes, heat it for five or six seconds over a small Bunsen burner flame until the vapour subsides. Wash well and continue with the silver method and a result can be obtained in two or three minutes.

Does this mixture act as a corrosive? I do not know, but thanks to it Van Ermengen's method is greatly simplified, and the spores are distinctly apparent in black in the interior of the light or dark blue tinted filaments.

A thorough reaction, which Miller was the first to give, is the reaction of iodine, combined with some acid, even a weak acid, which reaction causes the microbe to assume a violet tint, and allows it to be distinguished from most of the other microbes which are met with in the mouth and which do not present this reaction.

We know that the leptothrix is found in the buccal cavity;

but which is its favourite abode, and can it be met with elsewhere?

Its favourite abodes are—the dorsal surface of the tongue, the dental interstices and the tonsils; also sometimes in carious teeth, where it is met with in tufts in the margin or in the bottom of the cavity. It is also found, but by chance only, in the concretions of the lachrymal pipes (Jaffé), in the expectoration of pulmonary gangrene (Leyden, Craube). Weigert has also met with it once in an abscess of the tongue.

It is normally met with in the mouth of healthy persons, but it is very difficult of cultivation on account of the sort of microbic antagonism which appears to exist between this species and the other species which compose the microbic flora of the mouth. These species stop and choke the development of the leptothrix. It is to be met with—and this is an entirely personal opinion—very frequently and in an almost pure culture in the mouth of idiots, of weak-minded persons. In this case *the saliva* is literally filled with it. In the mouth of three idiots of 18, 20 and 27 years of age residing at home, and of whom no care was taken, including no special care of the mouth, I have found it *three times*, and not in the tartar nor in the amygdalian crypts, but simply in the saliva reposing on the point of the tongue. It is with these three cases that this paper is concerned. I wished to undertake further researches in lunatic asylums, and thanks to the kindness of Dr. Bourneville we have been able, my colleague Dr. Durand and myself, to make at Bicêtre in the lunatic section about one hundred experiments in connection with the study of the leptothrix. We have, unfortunately, met with an almost total failure, on account of the too great cleanliness of the patients' mouths. Every morning the inspectors force the children to clean their teeth, and rare are those in whose mouths tartar can be found.

To run a chance of finding leptothrix in an idiot's mouth, or in one of feeble intellect, it is necessary that the health of the mouth be less cared for. Does the general state favour the increase of the leptothrix to the exclusion of other microbes? I leave to others the care of developing this question and giving a reply.

Besides the human mouth it is also found in the buccal cavity of most animals, such as dogs, sheep, oxen. Miller has found it in the mouth of a dog suffering from pyorrhœa alveolaris. To this species he has given the name of leptothrix gigantea. Doctor Phisalix, professor at the Museum of Natural History of Paris, has assured me he had found a species of leptothrix in the throat of a stork. From this it is observable that this microbe may be met with in almost all mouths. When it is met with in the human throat it is on the lateral surfaces of the tonsils in the form of small yellowish spots, easily detachable by the platinum wire used for the inoculation.

Has the leptothrix a pathogenic action ?

It would appear so, according to Leber, who, by inoculating it on the cornea, is said to have produced on the latter a serous suppuration. But Leber does not say in his remarks whether he inoculated a pure culture of leptothrix, or if he inoculated only a small quantity of buccal mucus. It would rather appear that this latter assertion is the true one, for most authors agree in saying that the leptothrix is not cultivable. Vignal and Rasmussen alone, eight or ten years ago, succeeded in studying it in pure culture. Rasmussen appears to have attained this by means of gelatine and potatoes. Unfortunately he gives no details of the method which he used.

Vignal (*Archives de Physiologie*, 1887), after numerous experiences made in 1885-'86-'87, has given an excellent definition concerning the species, and also of the morphological characters. He was, we believe, the first to draw the attention of bacteriologists to the difficulty of cultivation of the leptothrix, and especially of its isolation from the other species.

For my part, I am absolutely persuaded that he had studied one species only, for the result which he gives is different from that obtained by me. Moreover, it proves most surely that there is not only one kind of leptothrix, but different sorts, as you will soon be able to judge.

He advised the inoculation to be made with dental mucus and tartar very much diluted. The following are the observations he had made in the different mediums of cultivation :—(i.) *Bouillon.*—The leptothrix disturbs it slightly and forms a white deposit at the bottom of the tube. (ii.) *Gelatine in* *puncture.*—Boil culture with a head and paint. Liquefaction like a funnel at the end of three or four days. (iii.) *Gelatine in plates.*—The colonies make their appearance at the end of three or four days in the form of whitish spots, denticulating about the fifth or sixth day. They then become of a dirty white with an opaque centre and semi-transparent border. Then the gelatine becomes soft and ends by becoming perfectly liquid. (iv.) *Potatoes.*—Dirty white spot growing very rapidly. (v.) *Agar-agar.*—35°-38°C. The inoculations appear at the end of twenty-four hours. Same aspect as on gelatine.

Vignal added that on microscopic examination he had been able to see very distinctly with a high magnification in the inner part of the filamenta the presence of transversal sections on the preparations stained by aniline colours. In this, he differs totally from Robin, who said that *no* trace of articulation was *ever* met with in the filaments.

Here, then, is another proof that there is more than one variety of the microbe which interests us. And this is absolutely the opinion of Miller, who, as you know, has carefully studied the question, and is in a position to speak learnedly on the matter.

Here is the description of the three cases in which I have succeeded in obtaining in *pure culture* the leptothrix.

I specially draw your attention to the difference existing between these species.

Case i.—Miss H., aged 18. Insane. Very bad state of mouth. Soft tartar. Hypertrophied gums. Mucus taken on the tip of the tongue. (i.) Inoculation in phenicated bouillon, which is put in the incubator at 36°-37°C. *Four hours* later complete disturbance. Second inoculation with this bouillon in another tube of phenicated bouillon. Four hours later, complete disturbance. A plate of gelatine in Petri's box is made with this second result. At the end of two days whitish colonies, causing *no liquefaction* of the gelatine, these colonies spreading more and more without liquefaction. (ii.) *Ordinary bouillon.*—Complete disturbance at the end of four or six hours. The bouillon remains dense, and shows at the end of two or three days *a thick film.* No clearing. (iii.) *Lactose.*—Steady fermentation. *Peptone.*—Nothing. *Potatoes.*—Thick, whitish trace. Microscopic examination. Long segmented filaments, presenting very *clearly defined articulations.* Takes the Gram and all aniline dyes. Examined without staining in damp chamber they present a to-and-fro movement barely visible. Purple colouration by iodine and acetic acid.

CASE 2.—Mr. Z., aged 20. Idiot. Appears but 12 years old. Mouth in a very bad state. Saliva taken for inoculation. (i.) *Inoculation in phenicated bouillon.* Dense after twelve hours. Presents the same character as that described by Vignal, as also the liquefaction which No. 1 did not produce. (ii.) *Lactose.*—Nothing. (iii.) *Peptone.*—Nothing. (iv.) *Potatoes.*—Whitish trace.

CASE 3.—Miss P., aged 27. Idiot. Very bad state of the mouth. (i.) *Inoculation of saliva in phenicated bouillon.* Incubator at 36°-37°C. Disturbance after six hours. Thick film on the surface. (ii.) *Gelatine in plate.*—Same colonies as in No. 1 without liquefaction, even at the end of three months. The colonies appear from twenty-four to forty-eight hours. (iii.) *Lactose.*—Very defined fermentation. (iv.) *Peptone.*—Re-action of indol with the azotite of potash and sulphuric acid. (v.) *Potatoes.* — Hardly visible traces. *Microscopic examination.*—Voluminous filaments presenting a well-defined segmentative and spores brought to light by the blue solution which I have mentioned, followed by impregnation of nitrate of silver. The envelope does not take colour. Here, then, there are three different species of leptothrix, resembling each other in the appearance of their colonies, but differing from each other, either by the form of the microbe, or, and above all, by the nature of the cultures. In one case the gelatine is liquefied, in the two others it is not.

In two cases we find fermentation, whereas in the other we have none. Lastly, one case gives us the re-action of indol, while the two others do not. I think it is not necessary to add more to show the plurality of the species of leptothrix. This work is certainly not complete, I allow, since I have not been able to ascertain the degree of pathogeny which the species possess; but I wish to present to you these results, and hope at a future Dental Congress to acquaint you with any more results that I may obtain.

To conclude, I wish to draw your attention to the similitude of the colonies that three different sorts of microbes can present which might be confounded with the leptothrix. These are the zopfii, the coli bacillus and typhic bacillus, but especially the zopfii. It is true that a simple examination with the microscope would suffice in such a case to avoid confusion with the leptothrix, being all three simple bacilli, and not attaining the tenth part of the length of a filament of leptothrix.

A Case of a Suppurating Dentigerous Cyst.*

By T. ARTHUR GOARD, L.R.C.P., M.R.C.S., L.D.S.

On August 18, 1896, a girl 14 years of age attended the Exeter Dental Hospital, complaining of a swelling in the lower jaw on the left side.

The family record was good. The girl had scarlet fever four years ago, but made a good recovery, an affection of the sight being the only sequela.

The history given of the trouble was as follows:—About four months previously to being seen, she first noticed a small hard lump on the under surface of the left side of the lower jaw about an inch from the angle. The lump gradually grew larger, and her parents stated that during the fortnight previous to being seen it had rapidly increased in size. Three weeks before coming to Exeter she was taken to a medical man, who advised the extraction of the back teeth, but this was not done. Pain was slight, but worse by day. No pain in mastication. The appetite had not been good since she first noticed the lump, but she had not lost much flesh. On examination, externally, there was to be seen a swelling on the outer side of the lower jaw on the left side, extending from one inch in front of the angle to half an inch of the mid line. It was situated entirely above the lower border, and extended upwards for nearly two inches. The skin was not red, but a few veins were to be seen.

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* Read at the Annual Meeting of the Western Counties Branch, held on July 23.

From the interior of the mouth, the swelling extended on the outer side from the first bicuspid to behind the second molar, and was a little above the level of the alveolar process. A loose second temporary molar, which was much inverted, had been lately removed, leaving the socket open ; a probe could find no communication with the cavity.

The first and second permanent molars were very much inverted, the first more so than the second, and the division between the roots could be seen.

On the inner side of the jaw the lower border was very slightly thickened in the neighbourhood of the angle, as compared with the other side.

Just below the first bicuspid there was a hard lump—apparently harder than bone—and very suggestive of a tooth. There was missing on that side of the jaw the second permanent bicuspid. On the other side the teeth were irregular but all present. The wall of the swelling was tense, but at places could be indented, giving the " parchment-like " sensation. There was no inflammation about the parts involved. There were no glands to be felt.

On August 20 (two days afterwards) the swelling had increased, extending to the left canine. Patient stated she had had more pain.

On August 24 the pain was greater and worse at night. It was more tender to the touch.

The pain increased daily, and on the 28th she was admitted to the Devon and Exeter Hospital, under the care of Mr. Bell, who kindly asked me to co-operate with him.

On August 29 chloroform was administered. The first step in the operation was the extraction of the first permanent molar. The roots were embedded in the roof of the swelling, and on the extraction opened the cavity, from which a most offensive odour was emitted. A single incision was then made along the outer wall of the cyst. The posterior portion was bony and had to be incised with bone forceps. The anterior portion was membranous. A quantity of extremely fœtid pus poured into the mouth. The cavity was well syringed out with 1 in 60 carbolic, and examined. It was found to extend from the left canine to behind the second left molar. The cavity was mostly within the bone of the jaw, the expansion of bone being entirely on the outer side. The walls were smooth and lined with non-vascular mucous membrane, except in the anterior portion where there was a good deal of granulation tissue. The roots of the first bicuspid were distinctly felt through the soft lining, as were those of the second molar. The first bicuspid was extracted and a search made for the missing second bicuspid, but no trace of it could be found. The cavity was well scraped. The second molar was also extracted as it was very inverted. The first molar was not much decayed, and there was no opening into the pulp chamber. On being split, the pulp was found to have perished, but was in no way offensive. The roots showed "needle-points" of absorption. The second molar had no roughness about the root, but caries had commenced on its crown surface. The root of the first bicuspid was rough.

August 31: Patient complains of no pain, only soreness to touch. There is an offensive discharge on syringing.

September 4: Patient suffers no pain. A mouth gargle is used every two hours. Cavity is syringed out night and morning; discharge still offensive. Small pieces of necrosed bone have been washed out during the syringing.

September 17: Steady improvement has continued. All offensiveness has disappeared and the discharge is very slight. The walls of the cavity are lined with healthy granulations.

Patient was allowed to return home with strict injunctions to keep up the syringing.

On October 5 she came up to report herself. The cavity was steadily healing. In the posterior wall there was to be seen the crown of the second bicuspid, completely inverted, lying horizontally. Nitrous oxide was administered and the tooth removed without difficulty. The tooth had a stunted root but was otherwise normal.

On November 25 the cavity was closing and looking very healthy.

The girl has been seen by me two or three times since, and slow but sure progress is to be reported. The cavity was not quite closed when I last saw her about three weeks ago.

The special points to which I wish to call attention are, first, the apparently rapid growth, with sudden increase of pain. Was it not suggestive of a sarcoma?

Secondly, the suppuration and formation of most offensive pus without any implication of neighbouring glands or rise of temperature. The temporary molar, I am assured, was not so decayed as to cause a dental abscess, nor could the permanent molars have been the cause. What is the explanation ?

The special knowledge of diseases of the jaws and teeth gained by a dental surgeon, if invoked, becomes a help in diagnosis to the general surgeon. And let me add that general practitioners, by consulting dental surgeons in many pathological conditions of the mouth, would often prevent serious mistakes in treatment.

Aids in Practice.*

By W. BOOTH PEARSALL, F.R.C.S.I.

I NEED not dwell upon the value charts are to the careful practitioner from the point of view of record of work done and for future reference, should any peculiarity in treatment need to be remembered. Were careful and brief records kept by all our painstaking and accurate observers throughout the year valuable information would be acquired and spread amongst us that goes to waste from our neglect to make use of it. The dental schools appear to me to be singularly sterile in this work. Instead of training the young observer by systematising a good method of record, little is done to make our profession a progressive one in accurate observation.

If a comparison be made of the numerous charts that have been placed at our service it will be found that they err in two directions—one by the use of shaded rather than diagrammatic figures of the teeth, the other that the cuspings of the molar teeth are almost invariably the creations of fancy, and the normal anatomical condition is overlooked.

I have felt the need of a suitable chart, and the close study I have given to natural teeth for many years has made me familiar with the inaccuracies committed in all the charts that have been introduced. In none of the charts that I have seen are *all* the operative surfaces of the teeth given, and therefore records of fillings and other details of operative procedure must necessarily be imperfect. I use two kinds of charts, one for permanent record and the other for chair side use.

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* Read at the Annual Meeting, held in Dublin during August.

I have tried the charts for upwards of two years, and for simplicity in use and fulness of detail in all essential particulars I do not find that anything further has to be added to the design. The permanent record chart is made of such a size that it can be used in an Amberg file for rapidity of reference. You will notice that there is ample space for the charting of particulars of fillings or extractions, and that the name and address of the patient is entered in two positions, so that if it should happen that the chart was carelessly misplaced when being filed, the name and address would still be readable as the file was opened.

The particulars of treatment can be entered on this chart by any method of notation the dentist may consider suitable to his needs, fully or briefly. Should the particulars run further than the space available on the chart, another chart can be used or a sheet of paper suitably ruled added to the chart in use.

I tried to use the permanent record chart at the chair side, but found it somewhat cumbersome and inconvenient unless a special stand or desk was reserved for such use.

By getting the chart for the maxilla and the mandible reduced to a quarter the size of the permanent record chart, a more manageable size was made, and I find that little notes of warning about certain teeth can be put in with lead pencil and used from time to time at each visit of the patient till the treatment is completed. The permanent record chart can then be filled up from the notes made on the chair side chart, the operator drawing with a pencil the areas or contours of the filling, or other treatment used. I find the use of water colour a help. It is a great assistance to the memory to see these patches of colour whenever a reference to the permanent record chart may be necessary.

Correct charting of operative work enables a practitioner to see what has been done, and when statements are made by a critical patient as to the "falling out of a filling" or some other mishap, they can be verified by reference to the chart in a way no human memory could do. I am persuaded that the form of chart I have designed is not only most suitable for private practice but also for hospital training.

Some years ago I visited the Yorkshire College at Leeds, and, as you know, weaving and dying of textiles is a prominent part of the training given there. Each student has to weave different kinds of stuff and also to dye them.

During all this work duplicates are kept of the stuff and dyed specimens, which are filled in on charts, so that when the student has completed his "course" he has made for his future use in life a large volume of notes of the most accurate kind containing the fullest information about the chemistry of dyes and mordants.

It would be well, I think, if our Boards of Dental Examiners were to call for similar volumes from dental students when presenting themselves for their final examination, as the slovenly and incomplete way certain examples of regulating teeth, crown making, and mechanical work generally are carried out are not worthy of the schools or of the teachers.

The use of suitable charts would of necessity call for a more detailed or systematic way of teaching, demonstrating, and practising the many details we have to use in our daily work.

The specimens of charts will show all the practical members of my profession that I have embodied in the design of these charts many details based on anatomical study that have not been placed on record, or chair side charts before.

The Drop Hammer.

I have to thank my kind friend Mr. J. Charters Birch, of Leeds, for bringing to my notice this admirable tool. Its construction is quite simple, and it is a complete supplement to the coned form of metal die I brought before the profession nine years ago, which has been so slow to win its way amongst my brethren.

We each have our own ways of working. I was trained and used the hand hammer for many years, and I can make accurate plates with its use. I have used the drop hammer for several months, and am satisfied that for precision and graduation of blow the drop hammer bears away the palm. Indeed I can say that it becomes equal to the service of a skilled assistant, as the results attained are superior in fit and in economy of time from those of the hand hammer used with the coned dies.

Notes upon Some Forms of Enamel.*

By CHARLES S. TOMES, M.A., F.R.S.

In a paper published last year in the *Dental Record*, Dr. Paul expressed an opinion that I had been mistaken, probably, in describing the outer layer of the tooth of Lamna and of other Selachian teeth as a layer of "fine-tubed dentine," and that it had more of the characters of an enamel of the tubular variety.

This led me to examine into the subject a little more carefully than I had hitherto done, with the result that I came to fully concur with the opinion thrown out by Dr. Paul.

But in the investigation of this and other kindred teeth, some points have come under my observation which seem worth a brief notice. The enamel of Lamna is not much like that tissue which we are accustomed to see: in the first place, in many sections the line of junction between it and the dentine is not so smooth and sharply defined as in most other teeth. In almost all teeth the surface of the dentine is not quite smooth, but it is pitted, as some have thought, to receive the ends of the enamel prisms; and this pitting gives it in section a festooned appearance. Now, in the instance of Lamna and of other Selachian teeth, this festooning is much deeper, so that dwindling processes of the dentine, getting rapidly thinner, do run in a short distance into the enamel.

I presume that this has been seen by Dr. Paul, though, so far as I know, he has not described it; but he has put forward the suggestion that the penetration of all tubular enamels by tubes of the dentine is only to be explained by incursions of the dentine matrix, carrying with it the tubes. This explanation, however, I cannot accept, as the results of a very careful investigation of developing Marsupial enamel, which I have lately communicated to the Royal Society, show that it is not at all true of that enamel; and, viewed by the light of those researches, I do not think it true exactly of these Selachian enamels, although the appearances there lend to it a *primâ facie* support, for one can find plenty of places where tubes run through freely without the least appearance of any dentine matrix going with them.

Hence, although there is undoubtedly a more intimate interdigitation of the enamel and dentine in Lamna than in mammalia, or in most other fish, yet the penetration of enamel by dentine tubes is not to be explained in this way; the tubes which lie in the enamel are a formation derived from the ameloblasts, which join up with the terminations of the dentinal tubes, and hence are, strictly speaking, not properly to be styled dentinal tubes at all. My reasons for saying this will be found in the paper referred to and cannot be further entered upon here, but there are other peculiarities in the enamel of Lamna to which I wish to call attention.

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* Read at the Annual Meeting, held in Dublin, August 17.

Some little distance into the enamel, one-fourth or one-third of the way through, there occurs a layer of irregular spaces, like interglobular or lacunal spaces, and the tubes continued from the dentine run into these. They are further continued beyond them, right out to the surface of the enamel, where they have open ends, and the tubes are smallest in the middle of the enamel, tapering to this region from both sides. We have thus a sort of combination of the two varieties of tubular enamel, namely, of such as is seen in Sargus where the tubes of the enamel enter from the surface and are lost before they reach the dentine, and of that of a marsupial in which they enter from the dentine and are lost before they reach the surface.

This is well seen in some other fossil sharks, in which the outer part of the enamel, with tubes entering from the surface, forms a very distinctly differentiated layer.

Another appearance, unusual in enamel, is that of a lamination parallel with the surface, and, associated with this, the occurrence of small lacunal spaces, the long axes of which are parallel with the surface.

In watching the action of acids upon a ground section I have noticed that the dentine is attacked with even greater rapidity at first than the enamel, and with the evolution of a great number of bubbles of gas, though the enamel ultimately wholly disappears, while the dentine matrix is of course left.

Hence it is apparent that the salts of the dentine are far more rich in carbonates than are those of the enamel, though I have not as yet been able to make any analyses of them respectively.

The chief points to which I ask attention are: The interdigitation of the enamel and the dentine; the occurrence of lacunal spaces in the enamel; and the peculiar arrangement of the tube system.

But until the development of these enamels has been worked out, no very complete conclusions with respect to it can safely be drawn, so that the present must be regarded as merely a preliminary communication.

Report of an Examination of Teeth in the Arran Islands, Co. Galway.*

By CHARLES M. CUNNINGHAM, L.D.S.Edin., D.D.S.Mich.

I have written the following lines in the hope of attracting the attention of Irish dentists, and of English dentists visiting Ireland, to the interesting field of investigation which lies open to us in the remoter districts of our coasts in connection with the movement which has been inaugurated by the Schools Committee for the investigation of the teeth of children.

The inhabitants of the Arran Islands have preserved a habit of life and social economy so distinct from that of other parts of the country that they enable us to make interesting contrasts between our modern life and the older life which they have preserved. Their minds and hearts have retained old-world ideals and old-world habits which interest the archæologist and student of folklore, and I propose to show that their teeth have preserved an old-world perfection which is worthy of the admiration of the dentist.

Last Easter I visited Inishmore and examined the teeth of 54 young people of both sexes in the school-house of Kileany, ranging from 8 to 20 years of age. Out of this number I found 33 perfect or practically perfect sets of teeth and 21 imperfect.

To have brought these imperfects up to the standard of efficiency would have entailed 56 stoppings and 38 extractions, or 4 operations and a fraction per head.

This average, however, is somewhat misleading, as there happened to be two very bad cases who were almost beyond the ordinary resources of conservative dental surgery. These two cases would have required 29 operations between them—

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* Read at the Annual General Meeting, held in Dublin, Aug. 17.

12 stoppings and 17 extractions. So if we deduct these two bad cases it gives us an average virtually of 3 operations per head, or 1 extraction and 2 stoppings per head, with a fraction of 2 stoppings to spare.

For the purpose of showing how the teeth of these island children would compare with our town children, I examined 30 children in the Short Strand National School in Belfast, ranging from 11 to 18 years of age. Out of this number I only found 1 practically perfect set of teeth. To bring the remaining 29 up to the standard of efficiency would have entailed 154 stoppings and 60 extractions, or 7 operations and a fraction per head.

There is therefore an immense disparity between these town and island children, the worst of the island comparing advantageously with the best of the town, and this disparity is even greater than it appears if we consider the advantages which the town children had in a better and more varied diet and some knowledge of how the teeth may be preserved by cleaning them. Most of the town children had some notion of cleaning their teeth, whereas the island children had none.

The diet of the town children, as reported by them, consisted of bread and tea, potatoes, vegetables and meat, soup, oatmeal, eggs, bacon; whereas the diet of the island children consisted of bread and tea, frequently without milk, fish and potatoes.

There is a custom among the island children, however, which I think has an important influence on the state of their teeth, and does something to account for their remarkable efficiency. It is the custom of chewing persistently dulse, sloke, or some other form of edible sea plant gathered fresh on the seashore.

While examining their teeth I was struck by the evidences of this habit and by the beneficial effect it seemed to have in cleansing them of all impurities.

On inquiry I found that this habit is very prevalent among the children of the island.

I wish to make acknowledgment of my indebtedness to the Rev. Father Coyne and Dr. Kean of Inishmore, and to the Rev. Mervyn Gore and Mr. Moore of the Short Strand National School, Belfast, for their kindness and consideration in helping me to obtain the data for this paper.

SUMMARY.

Fifty-four island children—33 perfect, 21 imperfect.

Thirty town children—1 perfect, 29 imperfect.

Twenty-one island imperfects, 56 stoppings, 38 extractions = 4 and a fraction per head.

Twenty-nine town imperfects, 154 stoppings, 60 extractions = 17 and a fraction per head.

A New Method of Staining Nerve Fibres in the Dental Pulp.*

BY STORER BENNETT, F.R.C.S., L.R.C.P., L.D.S.

IN the *British Medical Journal* of March 13 of this year, an account is given by Dr. W. Ford Robertson of the result of staining medullated nerve fibres by Heller's method, when the tissues have been previously hardened in a modification of Weigert's new chrome-alum-copper solution.

The results described by Dr. Ford Robertson seemed so promising that I was tempted to try the method on the dental pulp, and have placed under the microscope some sections prepared in this way.

Dr. Ford Robertson says of the method that "the results are most striking, the medullated fibres being deep black, and standing out with extraordinary distinctness on a practically colourless ground."

Weigert's chrome-alum-copper solution is composed of:

Chromealum	$2\frac{1}{2}$	per cent.
Copper acetate	5	,,
Acetic acid	5	,,
Formalin	10	,,

Dr. Ford Robertson points out, however, that so large a proportion of formalin in the tissue prevents the subsequent staining being as perfect as it might be, and he has found it better to use not more than 2 per cent. formalin. It is with this weaker solution that I have experimented.

The tissue is hardened in the chrome-alum-copper solution for ten days or longer, prolonged action of the fluid not rendering it brittle. When removed from the solution it is washed for some hours in water, and cut in celloidin, or by the ordinary freezing method.

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* Read at the Annual Meeting, held in Dublin, August 17.

The sections are then stained by placing them in osmic acid 1 per cent. for half-an-hour (in the dark), then in pyrogallic acid 5 per cent. half-an-hour, next in potassium permanganate ¼ per cent. for three to four minutes, and finally in oxalic acid 1 per cent. for three to five minutes, the sections of course being carefully washed between the use of each solution. They may then be dehydrated, cleared, and mounted in Canada balsam, or at once mounted in Farrant's solution.

Though the process sounds somewhat complicated it is really simple and not very prolonged, and the resulting sections are readily photographed, the nerves standing out as a vivid black on a very pale background.

The sections may be easily counterstained before dehydrating, by eosin or with hæmatoxylin, or both, though of course, with hæmatoxylin the contrast between the violet and black is not so marked.

Weigert's chrome-alum-copper solution—or the formalin that is mixed with it—has the property of fixing the blood corpuscles, so that sections hardened by this method show the capillaries and small arteries and veins of the pulp most beautifully, the vessels with their blood cells showing very conspicuously.

X-Ray Tubes.

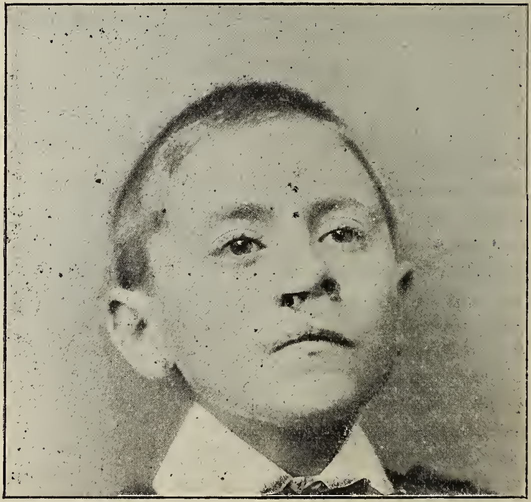
J. Wimshurst, in *Nature*, lvi., p. 364, points out that when X-ray tubes are very highly exhausted they become capricious, sometimes doing good work and at others refusing to illuminate. This difficulty he overcomes by coating the kathode end of the tube with tinfoil, leaving about ¼ inch gap between the tinfoil and the kathode terminal of the tube. A tube thus treated illuminates with certainty and with a much shorter spark-length than formerly, when it was uncertain with a six-inch spark-length and frequently required heating. In fact, a highly-exhausted tube can then be easily and well illuminated with an influence machine which has 17-inch plates.

Hospital Reports and Cases in Practice.

Notes on a Case of Eruption of Central Incisor in the Nasal Cavity, following Operation for Cleft Palate.

By R. KEITH COMMON.

The accompanying photo shows a remarkable result of misplaced alveolar process after an operation for cleft palate. The patient—a boy of ten years—was operated on twice by Sir George MacLeod, of Glasgow, first when three months, and again when fifteen months old. The fissure, which extended through the lip, hard and soft palates, was remarkable for its width and depth, and there was considerable difficulty in overcoming the tension in uniting the lip. The alveolar process was drawn together, but no attempt was made to close the parts behind, as it did not promise to benefit his speech. In a year or two an obturator will be made for him and this is expected to give a better result. In approximating the edges of the process, that part containing the right incisor had been tilted upwards, and of course changed the direction of the growing tooth, with the result seen in the photo. Soon



after the second operation a small hard nodule was felt in the floor of the right nasal cavity, and which was thought to be bone, but proved, after it dropped out, to be the right temporary incisor. The permanent tooth made its appearance only a few months ago, and its eruption was very rapid, taking an upward and outward course, with its mesial edge anteriorly. On removal of the tooth—which came away very easily—its appearance showed that its formation must have been disturbed at the time of the operation; a distinct depression encircles the crown about its middle, giving the appearance of a united fracture.

Abstracts and Translations.

Silver and the Silver Salts, and their use in Dentistry.

THE ideal antiseptic must possess the following properties: it must be harmless, non-poisonous and non-irritating; it must be fatal to all pathogenic spores and microbes; it must have no deleterious or destructive effect upon the tissues; it must be in a form that renders its application possible in the most difficult localities; and, finally, it should be sufficiently far-reaching in its effects to penetrate the deeper tissues and destroy the germs that may have penetrated to them. None of our previous antiseptics fulfil these conditions. Crede believes that two new ones, the citrate of silver and the lactate of silver, really do so; and his conclusions are confirmed by those of Halsted, Beyer and others. His bacteriological and clinical experimentation in the Carola Hospital of Dresden have given most surprisingly good results.

The laboratory experiments and clinical researches of Crede and Beyer were so entirely satisfactory that I resolved to try the new antiseptics in dental work. In the sterilisation of root sinuses I thought that they would be specially useful. My trials were made upon teeth with freshly killed pulps as well as upon those in which the pulps had become gangrenous, and include about 100 cases. And I may state at once that my hopes were not disappointed. The results that I have obtained during the last half year have been entirely satisfactory to me, and I can recommend these preparations to my colleagues in the very warmest manner.

I directed all the patients that I treated with the silver salts to return to me at once, as soon as any pain occurred in the teeth that had been treated. Up to the time of this present writing only three have reappeared with periostitis; and in two out of these three the defects in the molars were distal and difficult to get at.

My method of root treatment is the following: I open the pulp cavity with a suitable trephine, and if the pulp is gangrenous, clean it out as thoroughly as possible with a thin probe. Then I thoroughly and repeatedly inject out the root canal with a freshly prepared and dilute solution (1—2000) of the lactate of silver. Then I apply the rubber dam, dry the cavity carefully with cotton, and then thoroughly with the warm air injector, to the completeness of which procedure I attach the greatest weight. For I believe that even if dead nerve tissue remains behind, further decomposition and the development of the gases of putrefaction cannot so readily occur if all moisture is thoroughly removed, and mummification of whatever of nervous tissue is left behind is effected. Here the powdered citrate of silver is of special value, since it not only permanently disinfects the decomposition products that remain, but acts as a desiccant also in consequence of its powdered form. As is well known, the difficulty in the sterilisation of the root canals depends on the difficulty of thoroughly applying the antiseptic to it. I believe that it is best done by applying the citrate through an insufflator, to the nozzle of which a rubber tube with a very small orifice is attached; this permits the application to be made to all the sinuosities even of the distal canal.

The pulverisation is fairly forcible, and if the lumen of the canal is sufficiently large, I do not doubt that the particles of the drug reach the very ends of the sinuses. If the insufflator does not seem to have effected this, I apply the powered citrate to the depths of the canal on a thin probe.

Recently killed pulps I usually fill at one sitting, simply dusting in the citrate after opening the cavity with a sterilised bur and filling with tin or gutta-percha in the usual manner. When the root canals are putrid I deem it necessary to make two to three applications and insufflations of the citrate or the lactate before proceeding to the permanent filling. It is surprising to see in most cases that after the first introduction of the silver salts the odour of decomposition entirely disappears. I have seen no discolouration of the teeth in the cases that have returned to me; it is true, however, that they were all molar cases. Only the cavities were coloured black. Irritation symptoms after the applications were never noted.

I do not claim that this method of treatment of roots is the only proper one; for there are almost as many different methods as there are practitioners of dentistry. But with these antiseptics I have formulated a suitable and effective method system of treatment.

In conclusion, let me state that I have used the silver preparations in various other diseases. I have used the grey silver gauze in one case of empyema of the antrum of Highmore, and as a tampon for the hæmorrhage following extractions, and also the dilute solutions as gargles in stomatitis ; and I have obtained like satisfactory results with them.

The comparatively small number of cases over which my experience extends are too few to base a final judgment on. But the good results certainly enable me to recommend that these silver salts be extensively experimented with and tried by others, and I should be glad to stimulate those of my colleagues who have not yet used these antiseptics to do so.—*M. Hille, in Monatsschrift fur Zahnheilkunde.*

Pemphigus of the Mouth.

THE eruption of pemphigus sometimes occurs in the mouth and on other mucous membranes. That the disease in the mouth may precede that of the skin in the ordinary form of pemphigus—the chronic—is not generally known, though this is what invariably occurs in a rare form, pemphigus vegetans, and that the disease may remain localised to the mouth and adjacent cavities for a long time, and in some cases entirely, does not appear to be at all recognised in this country. In the *New York Medical Journal* of July 3 Dr. Lewis H. Miller describes a case in which the mouth was affected for twenty months without the skin being involved. The patient was a man, aged 72 years, who complained of soreness in his mouth and inability to take solid food. On the roof of the mouth and on the epiglottis were patches of false membrane of considerable thickness, which, when removed, left a raw, bleeding surface. Some decayed teeth were extracted and antiseptics used, but blebs formed on the roof of the mouth, the soft palate, the cheeks, under the tongue, and on the posterior wall of the pharynx. Bacteriological examination of the membranes gave negative results. There was neither fœtor nor salivation. Whenever the patient attempted to masticate solid food a fresh crop of blebs appeared. We consider this fact of great interest and importance. It is perfectly analogous to what may occur in pemphigus of the skin ; for local injuries, and even friction or pinching, will in some cases determine the formation of a bulla at the spot. No stronger confirmation of the diagnosis of pemphigus of the mouth when the eruption on the skin is absent could be given than this production of bullæ by such trivial exciting causes. Nothing of the kind, so far as we know, occurs in any other disease. Dr. Miller quotes a number of cases in which the disease existed for long periods, in one as much as eleven years, in the mouth before the skin was affected. The rare disease, pemphigus of the conjunctiva, may be very instructively compared with pemphigus of the mouth, because in the former disease also a skin eruption may be either absent or present. The treatment is similar to that of of pemphigus of the skin, though it does not appear to be very successful. In the case given arsenic seemed to produce some improvement. Opium might be tried. Mr. Hutchinson has shown it to be distinctly curative in some cases of pemphigus in which the mouth is primarily involved.—*Lancet.*

The Implantation of Sterilised Roots of Animals' Teeth, carrying Artificial Crowns.*

By Wm. ERNEST WALKER, D.D.S.

SINCE the introduction of the operation of implantation by Dr. Wm. J. Younger (1885), various substitutes for carrying artificial crowns—as lead capsules, porcelain teeth, double staples of metal reversed, &c.—the literature on the subject does not indicate any marked degree of success with any of the roots save natural ones.

As it is often a difficult matter to obtain a healthy root of a human tooth suitable for this purpose, it has occurred to me that we might utilise the roots of the teeth of beasts which are easily obtained from the slaughter pen, and which are, as a rule, free from disease, requiring, however, thorough sterilisation. Before implanting they can be surmounted with Logan or other crowns, a cast made of the mouth and a bandage made on it by Dr. Jack's method, which I have found the most satisfactory. While I have not found any beasts' teeth with roots very closely corresponding to those of human molars, this is immaterial, as the socket from which a molar has been extracted requires remodelling, even to receive a human molar, for the roots of no two human molars are alike, and less cutting is necessary in using the large, single root of a bovine central incisor, all that is demanded being the removal of the septum dividing the alveoli of the socket. I have examined a number of heads and find that while bovine centrals are very well developed and admirably adapted to this purpose, it is not so with the lateral incisors at the age at which beef is usually slaughtered in this section of the country, the root of the lateral not being fully developed and the foramen very large.

This is not, strictly speaking, *implantation*, but a practical *transplantation* which might be practised by some who are hesitating to drill sockets in the molar region for implantation, or who might be deterred by the difficulty of inserting a multi-rooted tooth.—*Dental Register.*

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* Abstract of a paper read before the Dental Section, American Medical Association, Philadelphia, June, 1897.

The Treatment of Sensitive Teeth.

By E. HOUGHTON, L.D.S.I.

THE cases that I bring before you both refer to the same mouth, a gentleman about 60 with a fairly healthy mouth. The first case I treated in March, 1896. He came complaining of pain in the left upper molar. I found absorption had taken place. The pulp was quite healthy, and in drilling into the enamel I found the tooth was very sensitive. I treated it by fitting a gold plate carefully over the exposed fangs. I first took a model of the buccal surface and pared away the model at the neck of the tooth, so that the band would fit underneath the gum. Before cementing on the tooth, I painted the portion beneath the gum with chlora-percha and fastened the plate with a pin and cemented it in the same way as I would cement a crown. I may say that this has been perfectly successful. Before I put the plate on, the patient could not bear either hot or cold water in his mouth. The success was immediate. He has retained it in his mouth and the tooth is doing good service. The tooth was quite firm and has been so ever since.

The next case was slightly more complicated. In this tooth the symptoms were the same; there was sensitiveness to extreme heat or cold. This tooth was complicated by decay on the distal surface. I treated that by filling with artificial dentine; then fitted a band around the tooth—a split band—which I tightened up, after putting in position, by means of a screw. The case has been perfectly successful. The patient said he had had no trouble since. In both these cases the teeth were doing good service. The patients did not wish to lose them, and I tried them as experiments.—*The Transactions of the Manchester Odontological Society.*

Aphtha Cachectica or Rigia's Disease (1881).

ACCORDING to Prof. F. Fede (*Arch. f. Kinderheilkunde*), vol. xxi., 5 and 6, 1897) this disease is often met with in the lower regions of Italy, especially in the Province Sannio. It manifests itself as an elevated, gray, pearl-like swelling, 2 cm. wide and ½ cm. thick, always underneath the tongue and on its frænum. Judging from the fact that the tumour appears, as a rule, after—very rarely before—the eruption of the middle incisors, the author is inclined to attribute it to the friction of the teeth against their alveoli during cutting. He distinguishes three types of the affection: (1) Sub-lingual tumour without complications; (2) Tumour accompanied by general malaise, disturbance of the alimentary canal, cachexia; sometimes, also tuberculosis; (3) Tumour attended by severe complications, leading finally to death of the child. The histological structure of the tumour is alike in all three types, presenting a hypertrophy and hyperplasia of the mucous membrane, especially of the papillary layer. Old tumours assume the structure of a granuloma. No micro-organisms can be found in stained sections, and inoculation experiments prove negative also. The treatment consists in excision of the tumour with consequent cauterisation. Complications must be met as they arise.—*Dominion Dental Journal.*

Notes on the Administration of Nitrous Oxide.

By J. FREDK. W. SILK, M.D.

THAT a certain amount of risk is attached to the inhalation of nitrous oxide is, of course, true, but judging from the records the danger to life is really remarkably small, not more, perhaps, even if as much as that attendant upon parturition.

Syncope is not unknown, but is not more frequent than in any other proceeding involving a certain degree of nervous tension ; its occasional occurrence, however, suggests the desirability of watching the circulation and keeping a finger upon the pulse, either in the temporal region or elsewhere. The chief difficulties and dangers, however, are of an asphyxial type. If the head is tilted too far back the tongue may fall over the glottis, or it may be pressed downwards by the operator's fingers. This may be remedied by lifting up the head from the occiput, or by forcibly pressing forward the mandible from the angles. Foreign bodies in the shape of teeth, portions of tartar, pieces of the mouth prop, &c., &c., may fall upon the base of the tongue, and, instead of being swallowed, as is usually the case, may slip into the larynx. Luckily, this is a rare accident, or, perhaps, one should say, that it is so carefully guarded against that it seldom leads to fatal results. The treatment is mainly preventive, but if by chance a foreign body has slipped down and is giving rise to asphyxial symptoms, the patient, presuming that he is in a dental chair, must first be pushed sharply forward and encouraged to cough by patting on the back, &c. As soon as possible the finger must be passed down to the glottis, when the offending foreign body may be felt and removed. Finally, recourse must be had to tracheotomy, or better, laryngo-tracheotomy. A certain amount of asphyxia is often produced by the trickling of blood into the larynx, especially after the extraction of upper molar teeth, and the possibility of this occurring points to the desirability of pushing the patient's body well forward as soon as possible, and of removing the mouth prop ; for it is almost impossible for the patient to commence to swallow as long as the mouth is held widely open.

Occasionally the patient will groan, or will make more or less violent movements with his arms and legs during the stage of induction ; these should only be restrained so far as to prevent injury to himself and others. Under these circumstances, and on the supposition that it is the result of some [unknown] air-leakage, I am myself in the habit of shutting off the valves, and so allowing the patient to breathe in and out of the bag, and at the same time pressing on the bag with my hand to force the gas through the face-piece. If this is done the trouble subsides in a few seconds. A more unpleasant *contretemps* of the same character is the almost maniacal condition which sometimes occurs in robust young men, directly the tooth has been removed and the patient commences to come round. This is almost invariably associated with recent alcoholism. No restraint whatever should be attempted in these cases ; if the patient wishes to get out of the chair let him do so ; to attempt to hold him will only lead, as I have seen it do, to violent scenes and personal injury to the bystanders. The condition only lasts for a few seconds.

Are there any cases in which nitrous oxide ought not to be administered ? I know of but very few. The very frequent assurance of the patient that he has a " weak heart " is far too vague for any importance to be attached to it, and even in respect to definite organic heart lesions I should not hesitate much to give gas to a patient who was well enough to walk into the room without assistance. The same may be said, too, with regard to the phthisical, but these latter are apt to become unduly livid. I have certainly seen an epileptic fit occur during the administration of nitrous oxide, but this was probably a mere coincidence. I have seen nothing of the sort in the many other epileptics to whom I have administered, though a good many describe their subjective sensations as being very similar to the epileptic aura. Pregnancy? I have notes of a solitary case in which the administration was followed by premature delivery the following day, but the fœtus was macerated, and had obviously been dead for some time. Perhaps, on the whole, it would be wiser to advise against the administration in the eighth or ninth month. Very young children and even infants take gas well, but the fear inspired by the apparatus is probably greater than, and is an addition to, that of the operation, and I question whether it is wise to force it upon them.

Finally, a few words as to after-treatment. More or less, hysteria is not uncommon, and must be treated with firmness, the sedulous attentions of over-anxious friends must be discouraged, and the patient urged to help himself in every way. Sickness is not unknown, but is very rare, and if it occurs at all it will come on within a few minutes of recovery. As a rule, therefore, it does more harm than good to keep the patient recumbent for any length of time, as is so often advised by those who are not familiar with the gas ; the general experience is that, on the average, the patient is quite fit to leave the house within a quarter of an hour or twenty minutes of the administration.

Just as it is unwise to administer nitrous oxide on a full meal, so it is better that no solid food be taken for an hour or so after.—*Treatment.*

A Litter of Supernumerary Teeth.

By G. LENOX CURTIS, M.D.

A PATIENT, aged 21 years, with a history of a full set of deciduous teeth and no extraction of the permanent set, presented herself, complaining of pain and some swelling in the jaw near the symphysis. Examination revealed the absence of the inferior left lateral incisor, the left central being slightly loose and tender on pressure. A slight space intervened between this and the cuspid, the cusp of which was tilted forward and the apex well back, encroaching upon the bicuspid. Suspecting an unerupted lateral, a shell probe was passed through the gum and periosteum until a glistening subject resembling enamel was reached. The patient was so highly sensitive and hysterical that further examination was deferred until the time of operation. An incision in the gum was made directly over the tumour at the apex of the root, the periosteum was opened and laid aside so as to expose the contents. Here were found seven teeth nestling together in a cavity about the size of a denuded peanut. The roots were like the spokes of a wheel radiating outwards, some almost penetrating the gingival margin of the gum projecting above, while others were close to the lower border of the jaw. The cavity in which they were confined was perfectly smooth and without a soc. The roots of the teeth were pointed like tacks and were from one-sixteenth to a quarter of an inch in length, the crowns uniformly being an eighth. They closely resembled small inferior incisors of the temporary set, the crowns of only two showing clear enamel, the others being clump shape with a growth of yellowish colour much resembling exostosis. On opening the teeth I found they contained a pulp same as a normal tooth. This beats my record by four at a single birth. Around one of the largest teeth was a soc highly inflamed filled with fluid, and from this, no doubt, the trouble arose.—*Dominion Dental Journal.*

Injections of Osmic Acid in Neuralgia.

Franck (*Centralblatt f. Inn. Med.*, April 10, 1897) recommends the use of osmic acid in obstinate cases of neuralgia, a remedy which has proved invaluable in his hands, as well as in those of several others quoted by him, especially in the worst cases. The injections produce a sharp pain which lasts but a few moments, apparently because the nerve fibres are destroyed by the action of the acid. No visible necrosis or ulceration follows its use. A 1-per-cent. solution is employed in direct contact with the nerve in order to relieve the pain. This explains the fact that in some cases success was not obtained until several injections distributed over a period of from one to six weeks had been employed. For facial neuralgia it is advisable to begin with minute doses.

Obituary.

Francis Ernest Bale.

We notice with great regret the death of Mr. Francis Ernest Bale. He was a partner in the firm of Messrs. John Bale & Sons, the printers now for some years of the Association Journal. Mr. Francis Bale was attacked by typhoid fever soon after his return from his summer holiday at Lowestoft, and after an illness of five weeks' duration, died on October 4 from perforation of the intestines. In business he was most courteous and willing, and ever ready to lend his help and so lighten the work of all connected with the publishing of the Journal.

Miscellanea.

Charing Cross Hospital Medical School.

The following entrance scholarships have been awarded:—Livingstone Scholarship (100 guineas), to Mr. S. A. Boyd; Huxley Scholarship (55 guineas), to Mr. W. J. O'Brien. Universities' Scholarship (60 guineas), to Mr. W. G. Rogers. Entrance Scholarships have also been awarded to Mr. E. Bayley (60 guineas), Mr. C. L. Lakin (40 guineas), and Mr. G. S. Welham (30 guineas.)

The Period of Dentition.

In the *Medical Record* Dr. J. Lewis Smith states that out of 170 infants (excluding rickets) examined by him in the outdoor department of Bellevue Hospital the first tooth appeared as follows:—In 3 infants at two months; in 20 at five months; in 24 at six months; in 37 at seven months; in 28 at eight months; in 20 at nine months; in 14 at ten months; in 15 at eleven months; in 8 at twelve months, and in 1 at thirteen months of age.

To Polish Aluminium.

The *American Druggist* states that grey or unsightly aluminium may be restored to its white colour by washing with a mixture of 30 grm. of borax dissolved in 1,000 grm. of water, with a few drops of ammonia added.

Formalin—Cement Root-Canal Filling.

Powder :

Calc. of sulphur	200 parts
Hydrarg. bichlor....	4 ,,

Mix finely.

Liquid :

Acid sulphuric	32 ,,
Formalin	100 ,,
Aq. distil	100 ,,

Rub up a few drops of the liquid with sufficient of the powder to form a paste, which, introduced into the previously dried root-canal, solidifies in a few minutes. Fill crown cavity as desired. The small quantity of corrosive sublimate and sulphuric acid in the paste does not have any discolouring or corrosive effect on the tooth.—Abraham, in *Zahndrztliches Wochenblatt.*

Stable Solution of Eucaine.

According to a writer in the *Dental Review*, eucaine must be boiled to make a stable solution in water or liquid vaseline. About 1 part to 19 is best for general use. The manufacturers say that 9 per cent. is about as strong as a clear solution will stand; when stronger the eucaine separates after a short time.

General Medical Council—Bye Election.

The balloting papers for the election of a Direct Representative in place of Dr. Rentoul (resigned) were returnable by October 9. At the time of going to press the result had not been announced.

Solder for Bridge-Work.

The following is the formula of a solder which is recommended by a writer to the *Cosmos* as especially useful in crown and bridge work:—

7½ dwts. gold coin.
35 grains pure copper.
12 ,, ,, silver.
12 ,, ,, brass pins.

Melt the gold and silver together and then add the copper, and as soon as melted add the pins and pour at once; this to avoid vaporisation of the zinc that is in the brass.

The Death of Madame Berthaux.

An interesting figure has passed away from the French dental profession in the person of Madame Berthaux, of Soisson, the wife of a dentist of that town. This lady was 74 years old, and had been practising dentistry for forty-five years, and as there were but few women in the profession at the commencement of her career, she may be said to be the *doyenne* of French women dentists.

Unqualified Practice in France.

The correctional tribunal of Liège has just given a notable judicial decision. A. M. V., a mechanical dentist of this town, was prosecuted by the provincial medical commission for having taken the impression of a tooth, and inserted an artificial one in the mouth of the patient. The defendant maintained that he could freely practise these operations. The Tribunal, conforming to a previous decision of the Court of Appeal, decided that such operations could only be performed by a qualified dentist, and fined the delinquent 50 francs.

The Australian Journal of Dentistry.

We have received a copy of the first number of the *Australian Journal of Dentistry.* It is, we believe, the initial effort that has been made in our Australian Colonies, in the way of dental journalism, and it has our best wishes for its success.

Odontological Society of Great Britain.

The first meeting of the Session will be held on November 1, when the President, Mr. W. E. Harding, will deliver his Inaugural Address.

Congenital Facial Paralysis.

At a recent meeting of the Society for Neuropathology and Psychiatry in Moscow Dr. Minor showed a case of this character presenting some interesting features. The patient was 26 years old. He was born of an intemperate mother, but no instruments were used at his birth. He was, however, much asphyxiated, being of a dark blue colour all over. At the moment of birth it was observed that the face was strongly drawn to the left side. This condition still persisted and in an aggravated form, but psychical development had gone on naturally until he was 18 years of age, when he began to suffer from epileptic attacks. When he was shown there was facial paralysis on the right side. The zygomaticus major had escaped and so had the upper part of the orbicularis oris. The platysma was much atrophied and no electrical response to either current could be obtained in the muscles other than those mentioned as having partially or wholly escaped. Dr. Minor regarded the condition as the result probably of an intrapontine lesion, perhaps a hæmorrhage in the facial nucleus occurring at the time of birth and associated with the asphyxia which was present. Some speakers, however, thought that the lesion might be in the nerve. Similar cases, it is pointed out, have been described by Schultze and Bernhardt, and also by Möbius. The last-named has described them as cases of nuclear disappearance in infancy.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Papers at the Dublin Meeting.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—In your issue of the 15th inst., *re* "Dublin Meeting," I note the undue prominence given to the fact that a paper was read by me at the "fag end" of the meeting (when the brakes were ready and nearly all the members off to Sir John Power's whiskey distillery).

There may or may not be a "sting in the tail" of this little note. It may or may not reflect in the direction it is intended, but in my opinion, and in the opinion of scores of the members present at the meeting, it betrays, to put it mildly, a lack of system which indicates the need of stringent reform if the Association is not intended for fossilisation and decay. It is not now my intention to deal with reform, but with facts, and I will content myself with asking a few pertinent questions, and allow Association readers to form their own opinion of my protest.

(1) Is it not a fact that a quorum is necessary to transact business, and is that quorum two or three?

(2) Is it not a fact that the bell was sent round to call together enough members to form this quorum, at a time when all were rushing for aforesaid brakes?

(3) When formed, did not the same conclude the business by proposing votes of thanks to Sir John Banks, the Lords and Council of Education, Presidents of Colleges, &c.?

(4) Were not six names mentioned as proposers and seconders of these votes, and several others present some of whom I can name?

(5) Again, if "two or three" were correct, how is it that the same was not referred to in connection with the whole proceeding?

(6) Did I not suggest to the President that the paper should be taken as read, and be discussed again in the Journal or otherwise, and did I not refuse his invitation to it on Tuesday evening tail end of business, when there were more present than suffices for the business of the empire in the House of Commons? And why? Because I was not afraid of opposition, but wanted free discussion of a subject which I contend is of vital importance to the profession, and to the public, or that portion who have ordinary nerves to feel and teeth to save.

(7) Lastly, as these facts are incontrovertible and speak for themselves, I will now finish with the British Dental Association, and

must request therefore that you will not publish in your Journal, the paper in question.

65, *Cowbridge Road, Cardiff,* Yours faithfully,
Sept. 24, 1897. Thos. Quinlan.

[The paragraph referred to was not in any way intended to cast any slur upon Mr. Quinlan or the paper he read, and was inserted with the view of showing the reason why the paper was unable to be discussed. We would remind Mr. Quinlan that all papers read before the Association become the property of the Association, and that it is not in his power to withdraw his paper. The Publishing Committee of the Journal have, however, resolved not to print the paper against his desire.—Ed. *J.B.D.A.*]

Sir William Thomson and Dental Education.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

Sir,—I wish to enter a protest against the discourteous and offensive tone of the leading article of the Journal of the British Dental Association for July last.

In common with many members of the British Dental Association, I am of opinion that the treatment of the subject of this article has caused needless pain to many minds, and especially to the President of my college, Sir William Thomson. In the garbled account of Sir William Thomson's remarks given in the article, so much heat has been developed that the trying nature of the interruption to which he was subjected when addressing the Council is overlooked, and words to which so much objection have been taken are not accepted as an interjection.

Sir William Thomson's remark, hastily uttered, has been made a peg on which to hang a mere tirade of abuse. I have known Sir William for many years, and I am certain that he is incapable of holding the distorted and objectionable views the leading article of July last places to his credit.

I am of opinion that he will be found not only friendly but distinctly helpful to any of us who desire to see the status of our profession raised intellectually or socially. His conduct all through his own professional life shows that he has never failed to act on the side of progress and of honour in all professional matters. He will be found, I am assured, the right man to expose shams where examinations held for a definite purpose are burthened with irrelevant matter.

The article falls into one absurd mistake a reference to the nearest Medical Directory would have avoided, and which I shall with your permission take the liberty to correct, namely, that Sir William Thomson represents the Royal College of Surgeons in Ireland, of which he is President on the General Medical Council.

Sir William Thomson holds what appears to me an enviable position, that of Direct Representative of the Medical Profession in Ireland on the General Medical Council, and is not, therefore, happily for himself, the representative of a medical corporation. If the points of controversy which seem to burn so brightly in the article are as misleading as *this* matter of fact, we must all regret that it ever was written. Sir William Thomson's views as to the reasonableness of confining the examination of candidates for a dental license to dental subjects are shared by many of us who have had a medical school training, and hold registrable medical qualifications, although we happen to spend our lives at dentistry. Sir William Thomson's services during the growth of the Royal Academy of Medicine in Ireland, to which he acted as General Secretary for many years, his position in Ireland as a surgeon, and the admirable series of reports he made to the British Medical Association on the anomalous conditions which prevail in the Poor Law Medical Service, show to my mind at least that he is more likely to be sympathetic with us than many prominent members of the General Medical Council who have been or are openly hostile to dentists for years past, so much so as to contemplate cutting us adrift from their jurisdiction altogether, forgetting that by the nature of the constitution the General Medical Council cannot make such drastic changes without the aid of an Act of Parliament.

I am further of opinion that Sir William Thomson should be made acquainted with the soundest views we hold as to the direction dental education should take, and that every courtesy and kindness should be shown to him generally by our members to make amends for an exhibition of bad taste on the part of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION I for one will not readily forget.

I am,
Yours faithfully,
W. BOOTH PEARSALL, F.R.C.S.I.

13, *Upper Merrion Street, Dublin*,
Oct. 5, 1897.

[We publish the foregoing letter as the expression of the opinion of a member of the Association who has rendered to it great service on many important occasions. The error of representing Sir William Thomson as being the representative upon the Medical Council of the Royal College of Surgeons in Ireland is to be regretted; at the same time, this purely technical error is not very material to the point at issue, since one may fairly take the President of such a body as being responsible to it as well as to the constituency for which he is sitting, in his public utterances upon an educational point. Without traversing Mr. Pearsall's letter, which now seems inopportune, we think that Mr. Pearsall, had he attended the gathering in Dublin, would have seen that our comments upon what he himself calls the "hastily uttered" remarks of Sir W. Thomson have not, as a matter of fact, produced the results which he anticipates. We gladly hail Sir W. Thomson as a staunch friend, as a perusal of the reports of the meeting show him to be, and we recognise in him a gentleman who is too much a man of the world to think the less of us for a vigorous protest where we felt the interests of dental education to be in any peril.—ED. *J.B.D.A.*]

Books Received.

TIN FOIL AND ITS COMBINATIONS FOR FILLING TEETH, by Henry L. Ambler. *Philadelphia:* The S. S. White Dental Manufacturing Co.; *London:* C. Ash & Sons.

THE AMERICAN TEXT-BOOK OF OPERATIVE DENTISTRY, edited by Edward C. Kirk. *London:* Henry Kimpton, 82, High Holborn, W.C.

ERRATUM.—In the leading article of last number the title of Mr. Booth Pearsall's paper was given as "The Management of Springs." It should have read, "The Edentulous Mouth."

Appointments.

DAVID HEADRIDGE to be Lecturer in Dental Histology, Owens College.

W. A. HOOTON, L.R.C.P., M.R.C.S., L.D.S., to be Dental Surgeon to the Manchester Royal Infirmary.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL
OF THE
BRITISH DENTAL ASSOCIATION
A
MONTHLY REVIEW OF DENTAL SURGERY.

No. 11. NOVEMBER 15, 1897. Vol. XVIII.

The Election to the Medical Council.

THE recent election of a new member to the Medical Council presented many features of interest to those who are concerned in dental politics, and who desire that whatever advantages the Dentists Act may have procured for us should be secured to the profession. We are all in some measure sensible of the professional and social benefits which have accrued to us since its enactment, although some of them may be felt rather than seen. We are also aware that it forms the only basis on which our future prosperity and progress as a profession can be built. If, however, we look at the question in a pecuniary light, the profession has had to pay heavily in defending those provisions of the Act which more intimately affect the public weal, and in so doing, be it said, that we have had but scant sympathy from those on whose behalf we have spent our money. Further, we have all been subjected to a heavy registration fee for the maintenance of our special Register, and to meet our share in the support of the Medical Council of Education by whom our Act is administered. All this is no doubt in due course and to be expected. Such a change as has been wrought amongst us during the last few years could not have been accomplished without money and self-sacrifice. Moreover, we cannot expect to keep ourselves together unless we have a complete record, not only of "who's who," but of accessions to our ranks and of our losses by the efflux of time and other causes; still on the whole the machinery that has been called into existence, and the money we have spent in vindicating the provisions of the Act, has been spent, and our increased educational expenditure has been incurred, for the public advantage, even as the Act for the registration of dentists was deemed "expedient" to enable the public to discriminate between qualified and unqualified practitioners. When the public has learned this important lesson we may then begin to expect some return for what we have done on their behalf.

Following on these reflections the recent election of Mr. Victor Horsley to the Medical Council is an event of extreme interest to us as a body. The gentleman who made room for him by retiring signalised his attention to dental affairs by asking a fatuous question while a member was addressing the assembled Council on dental education. Mr. Horsley is an avowed friend of the dentist, taking a great interest in our profession in every way; he holds, too, strong opinions as to our right to representation on the Medical Council. For these reasons alone we ought undoubtedly to be more than satisfied with his success, and to heartily congratulate him on his having attained the object for which he so strenuously fought.

Mr. Horsley could not have contested the seat on the Council from any desire for notoriety. His professional reputation is world-wide. His activity as an intolerant enemy, not only of what he considers abuses, but of anything like lethargy or *laisser-faire* is well known. He is not the man to sit quietly with folded hands in the midst of abuses, neither will he take punishment lying down or suffer any indignities on his profession, whether imposed intentionally or otherwise; and his journey to Folkestone a few years ago to meet single-handed the whole array of clerical, medical, and lay sentimentalists, male and female, and his exposure of the methods and arguments of the anti-vivisectionists, show the possession of a courage which, when needed, is at once fierce and aggressive. His principal opponent in the recent struggle has been, in his time, and we believe will be again, our firm friend. He it was who, on July 22, 1891 (seconded by Mr. Wheelhouse), proposed the abrogation of Clause 37, which provided a byelaw for dispensing with certain certificates of examination, &c., and his resolution was carried although the Council when previously memorialised by the British Dental Association on the same subject had replied with a *non possumus.* The recent decisions of the Law Courts have fully justified the wisdom of the measure initiated by Sir Walter Foster, and speaking from our own immediate standpoint we cannot but regret that both these gentlemen have not a seat in our medical parliament.

That our claim to representation on the Council is now admitted by a very important number of the members is a fact of which we are fully cognisant, and indeed the want of a reliable member who can at once enlighten and advise is keenly felt by those who take an interest in dental questions, and who wish to see the Dentists Act administered with equal justice to the public and the profession, and with credit to the Medical Council. With such a member as Mr. Horsley our position is certainly stronger than it was before, and we may hope ere long to see it further strengthened by the presence of our own representative. We may then be spared some rebuffs such as we have had too frequently to bear, and if they come again, as come they may, we shall bear them with equanimity, feeling sure that time is on our side and that our representative will be able to procure for us whatever is best from an impartial assembly.

Prosecution under the Dentists Act.

THE case of prosecution under the Dentists Act which we publish on page 702 differs in one respect from the usual run of such prosecutions, inasmuch as there were two indictments, the one of having obtained money under false pretences by the defendant holding himself out as being something he was not, and so inducing the plaintiff to employ him, and the other of infringement of the Dentists Act by the assumption of the title dentist.

Upon the first count the prosecution failed, the magistrates apparently considering that the evidence hardly established a fraudulent intention. The case is interesting, as it has many times been suggested, even by lawyers, that a conviction could probably be obtained on this count. When put to the test, however, it has failed, though possibly other benches of magistrates might take a different view.

Upon the charge of infringement of the Dentists Act a conviction was obtained, and the somewhat small fine of two guineas was imposed. As to this there would be nothing more to be said but for two things, the one that the defendant applied for a case for a higher court upon the point of law, and the other that a newspaper of high position published a very misleading article upon the case.

With regard to the proposed appeal, we do not for a moment suppose that anything more will be heard of it ; the defendant has not a leg to stand upon, and it is by no means an uncommon practice to give such notices with no idea of proceeding with them—in any case it has the effect of minimising, in the eyes of the lay reader, the stigma of the conviction.

But the writer in the *Birmingham Daily Post* has clearly, as is shown by the concluding paragraphs of the article, misapprehended the grounds upon which the conviction was obtained, evidently thinking that the act of practising for gain was that for which the defendant was punished, whereas, of course, it was the illegal assumption of a title which implied that he was qualified and registered.

It is much to be hoped that England will not always stand almost alone in allowing facilities for the unqualified practitioner to carry on his imposition upon the public ; nearly every other country prohibits the act of practice, and it has been said that in New York there is now hardly an unregistered practitioner to be found, though it must be remembered that some sort of qualification is to be obtained there upon much easier terms than obtain here ; but so long as the law stands as it now does, it is rather disheartening to find a newspaper of standing failing to grasp the nature of the conviction, and by its allusions to trades unionism and the like, expressing a sort of covert sympathy with an offender who has successfully evaded the spirit, though he has brought himself within the reach of punishment by transgressing the letter of the law.

Röntgen Rays in Dental Surgery.

THE great discovery of Professor Röntgen has already borne considerable fruit in the medical world and has proved extremely useful in the diagnosis of many obscure cases—its applicability to gunshot injuries, and the impaction of foreign bodies being especially evident.

From the considerable difficulty experienced in adjusting the apparatus to the mouth the results so far as the teeth are concerned have perhaps not been quite as perfect as they were expected to be, still, a good deal has been done, and many experimenters have produced some very successful photographs.

A negative obtained by Mr. Frank Harrison, and exhibited by him at the meeting of the Midland Counties Branch of the Association at Sheffield last year, showed very clearly and with a very slight amount of distortion, the temporary teeth with their pulp cavities, and the unerupted bicuspids lying beneath and between their roots.

This suggests the value of this method of examination in those cases in which the unerupted bicuspid is removed to allow the incisors to fall back—an operation sometimes attended with considerable difficulty when the bicuspid is abnormally placed to the second temporary molar. The production of such a photograph as that shown by Mr. Harrison would be a valuable preliminary to the operation.

Owing to the difference between the density of the tooth tissues and the open bony tissue of the alveolar portion of the jaws, the teeth stand out in Röntgen photographs quite clearly from the surrounding bone—but usually, especially in the upper jaw, show a considerable amount of distortion.

As far as methods are concerned, we believe the best results have been obtained by using a sensitive film in the mouth rather than a glass plate, the film—of course incased in some light tight material impervious to moisture—being capable of firm adaptation to the mucous membrane of the mouth. We cannot but think that there is still a future for this method of diagnosis in dental surgery, and with the more perfect knowledge of the nature of these mysterious rays which time will assuredly bring, many of the difficulties attending the production of the radiograph will be removed.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Meeting of the Representative Board.

A MEETING of the Representative Board was held at 40, Leicester Square, on Saturday, October 30, Mr. J. HOWARD MUMMERY, President, in the chair.

The following members attended :—Messrs. J. Ackery, W. H. Coffin, W. H. Dolamore, F. Harrison, L. Matheson, Lawrence Read, C. Robbins, W. Rushton, S. Spokes, J. Smith Turner, W. H. Woodruff, Joseph Walker, and W. B. Paterson, Hon. Sec. (London) ; A. A. Matthews (Bradford) ; F. W. Richards and A. T. Hilder (Birmingham) ; W. Helyar (Clifton) : R. P. Lennox and G. Cunningham (Cambridge) ; W. Bowman MacLeod and J. S. Amoore (Edinburgh) ; J. T. Browne-Mason (Exeter) ; C. Rees Price (Glasgow) ; T. Gaddes (Harrogate) ; J. C. Storey (Hull) ; G. Brunton (Leeds) ; G. G. Campion (Manchester) ; W. E. Harding (Shrewsbury) ; E. Apperly (Stroud) ; W. E. Hunt (Yeovil) ; T. E. King (York).

The minutes of the last meeting were read and signed.

Letters regretting inability to attend were received from Dr. J. Smith, Messrs. W. H. Breward Neale, W. R. F. Brooks, Baillie Wilson, W. Hern, T. A. Goard, Morgan Hughes, J. H. Redman, F. V. Richardson and A. Hopewell Smith.

Mr. W. A. Hunt (President-elect), who was received with applause, reported that the Western Counties Branch Council had considered various matters relating to the Annual General Meeting to be held next year in Bath, and had adjourned any further consideration of them until January, when he hoped to be able to report progress. He desired to express his sincere thanks for the honour conferred upon him. It was resolved that the dates of the Annual General Meeting be fixed for Saturday, May 28, Whit Monday, May 30, and Tuesday, May 31, 1898.

The President, on behalf of the Treasurer, reported that the balance at the bank was £686 16s. 6d., and that 146 members were in arrear with their subscriptions for one year and 30 members for two years.

On the motion of Mr. Woodruff, Messrs. J. W. Butcher & Co., chartered accountants, were re-appointed Auditors of the Association's accounts.

A ballot took place for three members of the Business Committee. The President declared Messrs. Smith Turner, S. J. Hutchinson and F. Canton duly elected.

Messrs. Amoore and Matthews were appointed scrutineers of the ballots.

Messrs. J. Ackery, Storer Bennett, L. Matheson, L. Read, A. Hopewell Smith and W. H. Woodruff were re-elected members of the Journal and Finance Committee.

The retiring members of the Schools' Committee, viz., Messrs. H. Baldwin, G. Cunningham, W. B. Paterson, R. Denison Pedley and S. Spokes were re-elected, and the name of Mr. F. Harrison was added to the Committee on the motion of Mr. Storey, seconded by Mr. Matthews.

In accordance with notice given by him, Mr. Storey proposed an Mr. Rees Price seconded, "That the dates of the Representative Board meetings for the current year be now fixed."

Mr. King pointed out that fixed dates had been adopted by the Board as far back as 1884.

Mr. Smith Turner said that fixed dates had been tried but had been given up.

Mr. Matheson considered that the proposal defeated its own object if it was intended to act as a check upon the number of meetings to be held, and it would probably be found that specia meetings would be necessary. Considerable diversity of opinion was shown by other speakers.

The Hon. Secretary, being asked for his opinion, said that he was in favour of elasticity always in such arrangements. It had been his custom to give a full month's previous notice of the date of Board meetings.

Mr. Storey's resolution, having been put to the meeting, was declared lost by 16 votes to 8.

On the motion of Mr. HUNT, seconded by Mr. BROWNE-MASON, it was resolved that the dates for the meetings of the Board be arranged by the Hon. Secretary as usual.

Mr. REES PRICE, having given previous notice, asked whether the Representative Board had been consulted officially in the matter of the new regulations in the curriculum for the L.D.S. of the Royal College of Surgeons of England either by the College authorities or the General Medical Council.

The PRESIDENT replied that no official consultation had taken place on the question between the Board and either body.

A discussion followed upon the desirability of the Board expressing the views of the British Dental Association upon such questions.

Mr. GADDES moved and Mr. CUNNINGHAM seconded the following resolution :—"That before the General Medical Council alter the existing dental curriculum, the Board respectfully requests that any proposed amendment thereto be first submitted to this representative body of the dental profession." The resolution having been put to the meeting, was declared lost by a large majority.

Certain Business Committee matters having been transacted and notices of election of members by branches received, the proceedings terminated.

Midland Counties Branch.

A MEETING of the Midland Branch was held at the Elephant Hotel, Doncaster, on Saturday, October 23, under the presidency of Mr. I. Renshaw, L.D.S. There was a large attendance of members. The Meeting of the Council for the arrangement of business was held in the afternoon, when several matters of importance were under consideration. In the evening there was a general meeting of the members. Mr. RENSHAW (the President of the Branch) occupied the chair, and the following members were present :—Messrs. I. Renshaw, Geo. G. Campion, Thos. Edward King, Frank Mordaunt, J. H. Carter, Walter Glaisby, J. Charles Story, W. A. O. Sutcliffe, Wm. Taylor, T. S. Davison, R. C. Heaton Drabble, W. H. Waite, Thos. Headridge, W. L. Jefferson, E. J. Ladmore, Chas. B. Dalby, A. Alex. Matthews, James Taylor, Frank Harrison, Francis D. Walker, Arthur G. Rayner, T. W. F. Rowney, A. Cocker, Thos. Cuttriss, Charles Stokes, J. Charters Birch, G. H. Lodge, A. B. Wolfenden, Jas. H. Naylor, A. Pearson Wallis, T. Gaddes, Thomas Murphy.

After a discussion on the paper read by Mr. Alfred Cocker, L.D.S., at the last meeting, THOMAS GADDES, M.D., L.D.S., read a paper entitled "How we can best assist the Association in maintaining the provisions of the Dentists Act."* An interesting discussion followed, after which the following resolution was passed by a large majority :—"This Branch is of opinion that Parliament should enact that it shall be illegal for an unregistered person to practise dentistry for gain, and the Branch desires its Council to consider and report upon the best means to accomplish that purpose."

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* To be published as an Original Communication in a future issue.

Interesting casual communications and demonstrations were given by Messrs. T. E. Constant, A. A. Matthews, J. H. Carter, Norman Washbourn, Frank Mordaunt, Thomas Cuttriss, &c., &c.

Mr. F. D. Walker kindly made the local arrangements, which were most satisfactorily carried out.

Eastern Counties Branch.

The Annual Meeting was held at the Norfolk and Norwich Hospital, Norwich, on Tuesday, October 26. Owing to pressure on our space we are compelled to hold over the report of the meeting till the December issue.

The Annual General Meeting.

THE MICROSCOPICAL SECTION.

The meeting of the Microscopical Section was held in the Anatomical Theatre of Trinity College, on Wednesday, August 18. Dr. A. W. W. Baker, the President, occupied the chair, and opened the meeting by the delivery of the Presidential Address.*

Mr. Storer Bennett, in proposing a cordial vote of thanks to Dr. Baker for his very able address, remarked that Dr. Baker, with the modesty that characterised him, said he did not know why he had been placed in the chair. Dr. Baker had shown them that morning the reason why. He had shown them many of the advantages that arose from having a scientific as well as a practical side to the Annual Meeting. The address that Dr. Baker had delivered was a most practical and encouraging one, and one which would enable them to take away thoughts to dwell upon in the future, and to assist them in carrying out their work during the coming year, so that in the Annual Meeting of 1898 they would still be able to have a Microscopical Section under, he hoped, the ægis of Mr. F. J. Bennett.

Mr. J. J. Andrew seconded the motion, which was carried with acclamation.

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* Published as an Original Communication.

A paper entitled "A Contribution to the Prophylaxis of Dental Irregularities" was read by Dr. Theodore Stack.*

Mr. HARDING said the paper dealt with a very practical series of points with regard to the preservation of the deciduous teeth. It was a matter that came before them daily, and was one that required a good deal of persuasion on their part to make the parent of the child appreciate the immense importance of the preservation of the deciduous teeth. Dr. Stack had laid before them in a precise and cogent way the reason why they should preserve those teeth. Dr. Stack had mentioned the point of advanced caries affecting absorption, and that was a fact which should not be lost sight of. So often the unabsorbed roots of dead deciduous teeth had such an immense influence on the eruption of the permanent teeth that it required constant watchfulness to prevent the permanent teeth from being displaced when they were erupted. The difficulty was not so much on the part of the dentist as on the part of the parent, and until they could thoroughly imbue the public with the importance of the subject they would be working at a very great disadvantage.

Mr. J. J. ANDREW said they all knew the results of those little temporary teeth getting into a diseased state—how when they were dead they interfered with the eruption of the permanent teeth, and there was practically no absorption going on at all. Dr. Stack had shown them the result of that, and that the actual pressure which used to be supposed to cause absorption, did in the case of the dentine have a very great effect. It was a point he himself had never noticed before. They all knew how easily a permanent tooth was driven out of its place by a dead tooth, and it showed the importance of trying to save the temporary teeth in a living condition.

Mr. J. HEADRIDGE asked Dr. Stack if he found any difference between the roots of temporary teeth which had died and been treated so that they had never become septic, and really septic roots that had never been treated at all—did he find the polished surface on both?

A paper on "Colouring Lantern Slides for Scientific Demonstrations" was read by J. ALFRED SCOTT, M.D., F.R.C.S.I.*

Mr. STORER BENNETT said he was sure all the members were deeply indebted to Professor Scott for the excellent paper he had given them, and for the very beautiful manner in which it had been illustrated. Professor Scott had given him an inkling how to improve the slides he had already used.

Dr. GREVERS (Amsterdam) said that as a teacher he must also express his gratitude to Professor Scott for the hints he had given as to preparing diagrams for the lantern. He should go home and try to do something similar to that which Professor Scott had done.

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* Published as an Original Communication.

Mr. DENCER WHITTLES said he had also dabbled in slide making a little, and his great difficulty had been to maintain the sharpness of the point of his pencil. A little hint was given him by a wood engraver, who said that on the Continent they used a piece of silver wire filed to a very fine point.

Dr. SCOTT, in replying, said that if members would take up the method and practise for a day, generally speaking on the second day they would be able to colour in five minutes a group of flowers such as he had shown.

A paper illustrated by lantern slides, by Mr. C. S. Tomes on "Undescribed Forms of Enamel," was read by the Hon. Secretary.*

A paper was then read by Mr. F. J. Bennett "Concerning the Expansion and Closure of the Dentinal Tubes."†

Mr. J. HEADRIDGE said the experiments seemed to have given results which one would expect. Mr. Bennett put a body which would expand under water in a rigid tube, and consequently it had to expand in any direction it could. With regard to Mr. Bennett's experiment with calcium carbonate and gelatine, there was in that case only a mixture of a body that would not expand, calcium carbonate, when it was wet, and gelatine, which would expand, and consequently the expansion of that mixture was less than the expansion of pure gelatine. He hardly thought very much was gained by the experiments, although they were very interesting in themselves.

Mr. STORER BENNETT thought that Mr. Headridge had scarcely grasped the original intention of his brother, which was, as Dr. Miller had stated in his book, that internal expansion was impossible; some series of experiments might be made to determine whether it was possible to obliterate a tube by internal expansion, which would set the physical question at rest. Whether the experiments were a sufficient answer as to the production of the "translucent zone" or not was beside the question. With all deference to the last speaker, it had been shown that external expansion could be got. They had got results not only of enlargement by lengthening, but also enlargement by internal expansion.

Mr. HEADRIDGE said he did not understand that the experiment was made with the view of disproving Dr. Miller. Of course, the experiments had borne out exactly what one would expect from them, but the question was, did they disprove Dr. Miller's theory?

Mr. W. HERN thought the experiments were sufficiently conclusive of the physical question as to whether a complete closure of the tube could be obtained due to expansion. So far it supported the original contention that the transparency could be caused by swelling. There were two or more theories with regard to the "transparent zone" — one that there was a complete calcification, and the other the swelling of the tubes. He should like to ask Mr. Bennett whether he had found in exposed dentine surfaces which had been undecayed (for instance, the dentine exposure in cases of erosion), any tendency to enlargement of the ends of the tubes or swelling at the ends of the tubes?

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* Published as an Original Communication in the October issue.

† Published as an Original Communication.

Mr. F. J. BENNETT said there were many questions of physics involved in the question of internal expansion. He did not think internal expansion was such an easy thing in all structures as one would imagine. With regard to Mr. Hern's remarks, he would not like to commit himself as to whether in old roots or eroded teeth, or in exposed surfaces of dentine free of caries, there was an enlargement of the tubes or a closure. He had undoubtedly seen in some cases a sort of beaded appearance, which Dr. Miller had also described. It had occurred to him (Mr. Bennett) as possible that the internal closure, such as he had described, might occur in the horny layer, and that was rather carried out by a skiagraph he had, in which there was a difference between the layer and the normal dentine. They knew that lime salts were opaque to the X rays, and therefore it was reasonable to suppose that if the lime salts were reduced in quantity, there would be less opacity. Therefore, if they assumed that the horny layer was less abundant in lime salts than the normal, they would find it would be fainter in the picture under the X rays. That was so to some extent in the skiagraph.

Mr. Bennett's paper was illustrated by numerous specimens and by the X ray photograph to which he referred, all of which were ultimately transferred to the Microscopical Exhibition,

Mr. STORER BENNETT next read a paper on "A New Method of Staining Nerve Fibres in the Dental Pulp." *

Mr. HOPEWELL SMITH said he was pleased to have had an opportunity of hearing Mr. Storer Bennett's paper, which he thought was a very valuable one. There was no doubt that the staining of the non-medullated nerve fibres of the pulp had been a very difficult matter up to the present time, but he should certainly adopt the new plan. He had for some time tried, with only very moderate success, to get good results from staining nerve fibres, and had used, amongst others, the methods of Messrs. Weigert, Pal, Polaillon, Strœbe, and also Mr. Underwood's plan by staining with gold chloride. The results were good, but they were not sufficiently distinctive, and the non-medullated nerve fibres—the most important of all—resisted the action of re-agents in a remarkable manner.

Mr. W. HERN thought the thanks of the Association were due to Mr. Storer Bennett. In the small region of the pulp chamber the

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* Published as an Original Communication in the October issue.

histological conditions were very complex, and anything which enabled them to differentiate one part from the other was a great advantage, especially for students.

Mr. STORER BENNETT said his method of staining did not stain non-medullated nerve-fibres, but only medullated nerve fibres.

The HON. SECRETARY for Mons. J. Choquet, D.E.D.P. (Paris), read a communication on "A Few Considerations on the Leptothrix Buccalis." * Afterwards he exhibited through the lantern some slides of Mons. Choquet, of cases of radicular odontome, and bony anchylosis of tooth to its socket.

The CHAIRMAN said he was sure the members would agree with him that they were deeply indebted to Mons. Choquet for an extremely interesting and important communication. It was only by studying the history of the organism and its mode of growth that they really could arrive at any true estimate of the part played by it in caries. With regard to the last slides shown, they were extremely interesting. It was very unusual to get true bony anchylosis in teeth. He thought he had only seen one example of it, and that was in Berlin. There was a very beautiful specimen thrown on the screen there from the mouth of a dog in which the bony tissue came right up to the dentine without the intervention of cementum.

Mr. F. J. BENNETT said bony anchylosis was a large thing for some people to swallow, but he did not see any anatomical or pathological grounds why it should not occur. He himself had quite an open mind on the subject.

Mr. STORER BENNETT thought they were deeply indebted to Mons. Choquet for the investigations he had made into the micro-organisms of the mouth, and for the trouble he had taken in bringing the paper before the Association.

Mr. LLOYD-WILLIAMS said it would be within the recollection of some of the members that at the Birmingham meeting in 1893 he showed a section of what was considered by those who examined it as true anchylosis. The case was very interesting because it was believed that there was a very rare form of osteitis associated with the case.

The afternoon session of the Microscopical Section was devoted to lantern exhibitions.

Mr. W. S. Haughton, M.B., took two Röntgen photographs of abnormalities in position of the teeth, which he afterwards exhibited as lantern slides.

Mr. CAMERON ROGERS moved a vote of thanks to Dr. Haughton for the time and trouble he had spent in taking and preparing the specimens.

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* Published as an Original Communication in the October issue.

A MEMBER, in seconding the motion, asked if Dr. Haughton had at any time taken photographs of unerupted wisdom teeth far back in the mouth. Very often, beyond middle age, there were no signs or history of extraction, and no signs of wisdom teeth being present.

The motion was carried.

Dr. HAUGHTON said it would be seen that in the Exhibition, the Dental Hospital of Ireland had shown a few examples of unerupted wisdom teeth, and he thought that although the indications were not very strong, there was quite sufficient to prove the presence or absence of the wisdom teeth in the lower and upper jaw.

Dr. Leon Williams exhibited, through Mr. Hopewell Smith, a lengthy series of most beautiful slides illustrating the pathology of enamel. They originally appeared in the *Dental Cosmos*, but the exhibition gave great delight to, and was much appreciated by, the members.

A lantern exhibition was also given by Mr. Dencer Whittles, of slides prepared by Dr. Cryer, of New York.

On the motion of the CHAIRMAN, a hearty vote of thanks was passed to Dr. Haughton, Mr. Hayden, Prof. Dixon, and the readers of papers and exhibitors for the assistance they had rendered to the Section.

THE CHAIRMAN said it was usual at that meeting to nominate the President, not for the following year, but for the year after, and it had been suggested that Mr. J. J. Andrew should be elected. Mr. Andrew was well known to all as a man of very considerable scientific ability, and he had done a great deal of microscopic work. He therefore proposed Mr. Andrew as President for 1899.

Mr. STORER BENNETT seconded the motion, which was carried with acclamation.

The meeting then closed.

THE MICROSCOPICAL EXHIBITION.

The anatomical room of the Medical School was set apart for the exhibition of dental appliances, and here an interesting display was made of photo-micrographs, lantern slides, and specimens illustrative of the work of the Microscopical Section. To Dr. Baker and to Mr. Hopewell Smith, the Hon. Secretary of the Section, the members are indebted for the opportunity of inspecting many new, valuable and important exhibits.

The Dental Hospital of Ireland, through the kindness of Dr. Stack, Mr. Haughton, and Mr. Hayden, had a most interesting display of lantern transparencies and microscopic slides, illustrating various normal and pathological conditions, the most interesting perhaps being the slides showing the use of the Röntgen rays in ascertaining the position and condition of roots and unerupted teeth. These were well arranged in lean-to glass frames, and formed an important feature of the exhibition.

Mons. Choquet, of Paris, also exhibited a series of lantern transparencies, showing leptothrix buccalis from pure culture, colonies of leptothrix on gelatine, colonies of mesentericus vulgaris, Friedlander's pneumococcus (encapsuled), typhic bacillus with flagellæ, and streptococcus erysipelatosus.

Dr. W. E. Haughton exhibited dental impressions, casts, and two excellent skiagraphs of hands from a gouty patient. The skiagraphical appearance of the hands was typical of gout, "tophi" showing as more or less clear nodes in the neighbourhood of the joints, especially well seen on the dorsal aspect of the distal joint in each thumb. There were also some "osteophytes" visible, of rheumatic origin. The ring finger of each hand presented that "cloudy" appearance denoting acute inflammation, due to a recent attack of gout in the fingers. The teeth showed signs of erosion, probably also of gouty origin.

Mr. Dencer Whittles had a large display of apparatus relative to the fixation, hardening, decalcification, and cutting of dental and allied tissues. He also exhibited a number of photo-micrographs, various microtomes, sections of hard and soft structures, diagrams, &c., and a cover-glass specimen of organisms supposed to be the cause of pyorrhœa alveolaris, or Rigg's disease.

In connection with his paper, "Concerning the Expansion and Closure of Dentinal Tubes," Mr. F. J. Bennett showed various plugs, tubes, &c., used in his experiments.

Transparencies of numerous micro-organisms were also shown by Mr. Howard Mummery. They included spirillum sputigænum, spirillum medula, vibrio with flagella oidium, &c., and in addition the models of development of teeth made by Dr. Röse of Freiberg. Mr. D. E. Caush sent slides of exostosis and inostosis; a very fine selection showing nerve cells and corpuscles were lent by Mr. J. J. Andrew.

Among the microscopic slides was a capital contribution by

Mr. W. H. Must illustrative of Weil's process, including a transverse section of the pulp *in situ*, structure of "polypus" of pulp, tissue-forming abscess of periodontal membrane, pulp stones, &c.

Mr. D. E. Caush also exhibited half a dozen slides of exostosis.

Several most interesting slides were also shown by Mr. C. S. Tomes in connection with his paper on "Undescribed Forms of Enamel." They comprised ground and decalcified sections of the fully-formed and developing enamel of lamna, hyrax, galeus, kangaroo, and other marsupials, and beautifully revealed the tubules and fibrous character of these curious enamels.

Mr. Storer Bennett's exhibit was illustrative of his paper on "A new Method of Staining Nerve Fibres in the Dental Pulp." A differential stain, the medullated nerve fibres were easily recognised, the nodes of Ranvier being especially well marked.

Another fine series of slides was shown by Mons. Choquet, of typhoid ulceration, caries, anthrax bacillus, &c.

Several slides were exhibited by Mr. A. Hopewell Smith, showing submaxillary (hard) lymphoma, fibroma of palate, maxillary myeloid sarcoma, and maxillary fibroma. Mr. Storer Bennett exhibited a very rare and interesting case of anchylosis of roots of tooth to socket, which was illustrated by a photo-micrograph. In connection with this case M. Choquet had two or three lantern slides illustrating a similar condition, and, singularly enough, the Hon. Sec. showed a slide of the same.

In addition to the microscopic slides, Mr. Hopewell Smith displayed a framed series of photo-micrographs illustrating some morbid conditions of the dental pulp, such as the various stages of hyperæmia, acute and chronic inflammation of the pulp, suppuration, "polypus," caries, erosion, and fibroid degeneration, adventitious and other forms of secondary dentition, and calcareous degeneration.

THE MICROSCOPICAL DEMONSTRATIONS.

These took place on Thursday morning at the Dental Hospital of Ireland.

Mr. Dencer Whittles demonstrated various methods and processes in use in dental microscopy, by cutting, staining, and mounting sections, and exhibiting the uses of acids, "fixing" reagents, imbedding in paraffin-wax, celloidin, &c.

The Hon. Secretary showed Mons. Choquet's new microtome for cutting paraffin-imbedded sections in series. The microtome screw, on adjustment, would allow the instrument to cut sections varying in thickness from 2,000th to 10,000th of an inch. The microtome was much admired by all who saw it.

Original Communications.

The Microscope and its relation to Dental Surgery.*

By A. W. W. BAKER, M.D., M.Ch., F.R.C.S.I., L.D.S.I.

My first and most pleasing duty is to thank you most sincerely for your kindness and goodwill in electing me your President; for certainly, were merit the test, there are many members of the Association who have a much greater claim to the honour than I have. But since you have placed me in that position, I shall endeavour to discharge its attendant duties to the best of my ability, and, I trust, to your satisfaction.

As there are many valuable communications on our agenda paper, I think I shall best consult the interests of the Section by making my remarks as brief as possible.

You are doubtless familiar with the gradual growth of our Section from the excellent sketch of its history given by Mr. Mummery, one of our former presidents, so it is unnecessary for me to travel over the same ground, and presuming that you know all about it, I shall take the Microscopical Section as it exists.

The committee of the Irish Branch who were entrusted with making the necessary arrangements for the Dublin meeting of 1897, in giving a special prominence to the Microscopical Section, in fact, in incorporating it as an essential part of our Annual Meeting, have doubtless incurred the censure of some members of the Association. These members most likely think that microscopists are perhaps on the whole a harmless body of enthusiasts, and that they have a fair right to pursue their fads, if they choose, but that they can scarcely claim the right to take a prominent part in such an eminently practical assembly as the Annual Meeting of the British Dental Association.

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* Presidential Address given in the Microscopical Section, Annual General Meeting, held in Dublin, August, 1897.

I do not fancy that it requires any very abstruse arguments to show that this view is an erroneous and superficial one, and can only be held by persons who have not taken the trouble of reflecting how very much the dental art has been, and must of necessity be, indebted to the microscope. I think it is a happy and a natural coincidence that at a meeting of our Association held in Trinity College, Dublin—a great centre of medical education—the importance of the microscope should receive its due recognition as a means of acquiring that information upon which the scientific practice of our profession rests. And I trust now that our section has emerged from the obscurity of its infantile existence we may look forward to a long career of its usefulness, not only to the British Dental Association but to the profession at large.

One is apt to accept the facts of every day life as they occur, and to forget the process by which we arrived at them, so in our daily practice we scarcely realise how much we are indebted to the microscope for methods of work which have become matters of routine. Were it not for the very important aid which the microscope has rendered to the healing art, of which we are an essential part, we should still be fast bound in the meshes of empiricism, we should still be ignorant of the structure of those tissues with which it is our constant lot to deal, our knowledge of anatomy would be bounded by the possibilities of the unaided eye, our ideas on pathology would be crude and vague, the true nature of dental caries a mystery. Were it not for the development of bacteriology our treatment of septic root canals would probably not be attempted at all, or a successful result would be a matter of the veriest chance, and so we should be without the sure foundation upon which we have built our useful and artistic crown work, which, rightly used, is among our best services to our patients.

The microscope, then, has been the means by which the edifice of the dental art of to-day rests no longer on empiricism, but on a sure and scientific basis. And with its assistance not only do we learn the important truths of anatomy and pathology, but in the course of study which it involves we cultivate a scientific habit of mind in observing facts and drawing deductions from them which is in itself an important part of our education, and which helps us to deal intelligently with the problems which confront us in our work. There is also an aspect of microscopical work which has an important bearing for us as dentists: I refer to microscopic technique. Were it for this reason alone the work done in connection with the microscope will prove invaluable, for in the delicate manipulations incidental to preparing and mounting specimens, one acquires a lightness and steadiness of touch that no other scientific pursuit with which I am acquainted will give. Need I point out to this assembly how very desirable such delicacy of hand is in operations within the mouth, and how very materially it conduces to successful practice.

Among the many interesting communications to this section we hope to show this morning some of the beautiful transparencies which illustrated Dr. Leon Williams's paper on enamel, and with which most of you are doubtless familiar, owing to its publication in the *Dental Cosmos*. The practical importance of this paper, taken in conjunction with the researches on the chemistry of enamel by Mr. Tomes and Dr. Black, can scarcely be over-estimated. Many of the pet ideas to which we have been fondly clinging for years must give way before the truths contained in these communications. Most of us, no doubt, have held views as to the different treatment of hard and soft teeth, and perhaps have talked glibly enough about it. Old superstitions die hard, but they must disappear before facts. Hard and soft teeth have no existence, as such; if we would be exact in our terms we must adopt Dr. Black's suggestion, and speak of softened teeth, that is, those teeth where the solvent action of caries has been at work almost imperceptibly on the enamel. Such teeth require our greatest care to cut widely till we have sound enamel edges; to leave no fissure or slight defect of surface as a possible harbour for micro-organisms—in short, thoroughness must be our watchword if we would do our duty towards our patients. This thought was admirably expressed in an address given some years ago by my colleague, who is now the President of the Association, when he said: "The dentist should emulate the faithfulness of the surgeon, and fill a tooth as carefully as the latter would tie an artery."

The scientific habit of mind engendered by microscopic work is not likely to stop short at anatomical and pathological investigations, so we find both Dr. Black and Mr. Tomes working at the properties of amalgam, in endeavouring to find some clue to the causes which govern shrinkage. It will be quite evident to anyone following the work of these investigators that there are possibly many factors engaged in producing this defect, but as the subject is not yet completed it would be premature to express any very decided opinion as to the real cause; still, these investigators have deduced some practical hints as to the best ways of using amalgam, of which we can all take advantage. I merely allude to this subject as an instance of the practical utility of scientific work.

Although our section is called the Microscopical Section, it really embraces all scientific work connected with dentistry, and no better example of such work is there than the paper which is to follow this address—I mean that contributed by the President of the Association. The application of the so-called X rays to dentistry will, I believe, prove a very important addition to our means of diagnosis, and its use in the mouth is more likely to be attended by success than in the other parts of the body, as the error produced by distortion is there considerably lessened. But I shall not further anticipate what you will better learn from Dr. Stack's paper and Dr. Haughton's demonstration.

In the remarks that I have made I have endeavoured to combat the idea that microscopical, or, to speak more generally, scientific work is a thing apart from our daily practice. I trust that I have convinced you that such work is extremely necessary for our real progress, and I think it follows that those who work for our benefit are entitled to our gratitude. In my opinion that gratitude would find its most suitable expression in the establishment of a prize for original work to be given by the Association at our Annual Meeting. If precedent were wanting for such a course it will be found in our kindred Association, the British Medical, where a helping hand is extended to those who work for the common good.

Concerning the Expansion and the Closure of the Dentinal Tubes.*

By F. J. BENNETT, M.R.C.S.Eng., L.D.S.Eng.

It is generally admitted that when dental caries is present a thickening and expansion of the dentinal tubes occurs known as the tobacco-pipe appearance, and that this is a manifestation of the well-known property of the gelatine substance of which the tubes are formed to swell under favourable circumstances. However much we may suppose this gelatine substance, be it collagen or glutin, to have been modified by the presence of the phosphate and carbonate of lime during its conversion into dentine—and there are many reasons for thinking it is modified—yet it is evident that the property of swelling is not lost, for it always reappears when caries is present. If, therefore, it is a property which is merely in abeyance, what is the restraining influence? does it lie in the presence of the proportion of the lime salts acting mechanically by conferring rigidity on the gelatine, or is it some other influence?

Before attempting to answer this question, there is another which requires solution, and upon which authorities widely differ, namely, as to the direction in which swelling can take place in the dentinal tubes. It is with this question that my paper deals.

"According to Neumann, the thickening of the tubes (by swelling) proceeds until the lumen of the tubules is totally obliterated" (Miller's "Micro-organisms of the Human Mouth," p. 188), but the possibility of swelling inwardly to any great extent is called in question by Dr. Miller; on page 160 of the above work, when discussing the question of the transparent zone of dental caries, he remarks, "It has also been attempted to explain the transparency of the dentine by obliteration of the dentinal tubes brought about by the swelling of the basis-structure. Since, however the swelling or expansion of a porous body is not accompanied by obliteration of the pores, but on the other hand naturally implies a corresponding enlargement of them, an obliteration by swelling is a physical impossibility."

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* Read before the Microscopical Section at the Annual General Meeting of the British Dental Association, held in Dublin, August, 1897.

As this question has an important bearing on the subject of the zone of transparency, I have made some experiments with a view to testing the direction and extent of swelling. To this end I obtained some cylindrical plugs cut from a piece of sheet glue, and through the centre of this drilled a hole of uniform measured diameter; the tubular plug was then enclosed in a rigid metal collar so as to resist external expansion, and immersed in water. In order to compare the other extreme—that of gelatine fully charged with lime salts—plugs similar in shape were compounded in the proportions normal to dentine, or nearly so: by weight 60 parts calcium phosphate to 5 parts calcium carbonate, gelatine 28 parts, and water 15 parts. This was sufficiently near for my purpose. In these plugs I used the ordinary commercial gelatine. In some cases the gelatine was allowed to swell in this amount of water only, and there was some difficulty in mixing so large a quantity of the lime salts with so small a bulk of the dissolved gelatine, but after mashing whilst the mass was warm and forcing into a cylindrical mould, suitable plugs were obtained, having a measured lumen and rigid collar fixed as in the previous case. Some similar plugs were also made in which the gelatine was first swelled in an unknown quantity of water. Lastly, plugs were made in which the gelatine and lime salts were of a different proportion, namely, six parts gelatine to one part lime salts. These plugs also had a measured cylindrical lumen and a rigid confining collar and were placed in water. There were, therefore, three varieties of plug: one resembling normal dentine in composition, another resembling what might presumably be that of the dentinal tube alone, and again, plugs of gelatine alone to act as a standard of comparison.

Results.—As regards the plugs of gelatine alone in rigid collars, I found a rapid swelling of the gelatine after some hours' immersion in water, both above and below the collar, sometimes to twice the original bulk, and swelling outwardly also until a mushroom shape was assumed. The diameter of the lumen was also greatly reduced, sometimes completely closed, and altogether there was a fair resemblance to the tobacco-pipe shape of carious dentine. In the series of plugs lowly charged with lime salts and rich in gelatine there was less rapid swelling on immersion in water, but in the same direction, and after some days with total occlusion of the lumen of the tube, although the original diameter of the lumen was $\frac{1}{4}$ inch, the diameter of the plug itself being $\frac{1}{2}$ inch. The plug also in its swelling above the collar well resembled the tobacco-pipe swelling of caries. This, I think, disproves Dr. Miller's contention that obliteration of the tubes by internal swelling is a physical impossibility.

In the third series of plugs—those with the lime salts in proportion normal to dentine—I found the swelling much more limited, the lumen of the tube being reduced from $\frac{3}{16}$ inch to $\frac{1}{8}$ inch, that is to say, by $\frac{1}{16}$ inch only. The swelling above and below the collar had lengthened the plug conspicuously, and was trumpet-shaped, or vaguely of the pipe-stem character. There was evidently great tension within the collar, for in parts where the collar was not sufficiently secured by ligature, the metal, yielding to the pressure, had become bent and dilated.

Another experiment I may mention also shows that where the proportion of lime salts is high, as in the last instance, there may be great tension, and yet the lumen of the tube does not become greatly reduced in size. In this case a plug of the same composition as the last was enclosed in a collar, to which a metal bottom had been soldered, a small hole being drilled into this for the entrance of water; the lid was formed by a thick glass slab, through which any swelling could be observed, and was securely bound to the top of the box by string, which, by its slightly swelling, held the parts firmly together. The tension within the box on the plug endeavouring to absorb water was so great that the soft soldering of the collar was torn apart; yet the lumen of the tube was but slightly closed.

In this respect a very great difference is evident according as the gelatine or the lime salts predominate; in the former total occlusion of the lumen of the tube can take place; in the latter it becomes more and more difficult to get narrowing or closure of the lumen as the quantity of lime salts increases. From this one might assume that had a plug been formed still richer in salts, 90 per cent., say, to 10 of gelatine, as a parallel somewhat to the composition of the matrix alone without the dentinal tube, we should have found probably no swelling whatever of the plug on immersing it in water. But merely relying on what the actual experiments have shown as to the manner and direction of swelling in the plugs, we may draw some conclusions as to the direction in which swelling may take place in the dentinal tube itself. For although the composition of the gelatine in the dentinal tube may not be precisely the same as in the artificial plugs, for in them water alone was sufficient to produce swelling, yet whatever causes the dentinal tube to swell outwardly will also cause it to swell inwardly, the difference being due merely to the presence or absence of a surrounding constriction. Thus, where the intertubular tissue or matrix of dentine has been dissolved away by the action of the acid and organisms of caries, and the constriction around the dentinal tubes removed, outward swelling is permitted, and the tobacco-pipe appearance will result, whilst it is possible to assume that in the area beneath, namely, the translucent zone, the matrix, not yet removed by caries, resists an outward swelling of the tubes whilst permitting of an inward one, with the result of a narrowing or occlusion of the dentinal tube in this situation.

The Preparation and Colouring of Lantern Slides Suitable for Scientific Demonstrations.*

By J. ALFRED SCOTT, M.A., M.D., F.R.C.S.I.
PROFESSOR OF PHYSIOLOGY, ROYAL COLLEGE OF SURGEONS, IRELAND.

As the optical lantern is now used so largely in the illustration of communications made before most societies, I may be pardoned for bringing this subject before you, although it is not strictly a subject connected with dentistry. But as there are some simple methods of preparing suitable slides for this purpose, all of which I use for my own lectures, and which are not generally known, I thought the subject might have sufficient interest for some to warrant my occupying so much of your time.

At the outset I wish to state that I do not intend to speak of the preparation of slides by purely photographic methods, as these are fully described in the photographic manuals and elsewhere, and indeed, from the beautiful specimens in the museum attached to the meeting, I see that many of you have very little to learn.

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* Read at the Dublin Meeting of the British Dental Association, August, 1897.

There are several ways by which fairly good diagrams can be prepared on plain glass. The glass slips, which must be 3¼ inches square, may be purchased coated with a soft kind of blue paint on which lines may be etched with a needle, but a method I find to be simpler and more easy to work, is to cover the plain glass with a thin deposit of carbon from the flame of a small lump of camphor, or a paraffin lamp from which the chimney has been removed and the wick turned low. A thin layer of carbon which is transparent and brown rather than black will be sufficiently opaque, as the deposit appears more opaque in the lantern than it does when held between the eye and a window. On the smoked surface anything can be written or etched with a point; a needle projecting about half an inch from a pen-handle being very satisfactory. The effect on the screen is similar to chalk lines on a blackboard. If the slide is to be carried any distance it should be fixed with some varnish, I generally use gum benzoin dissolved in alcohol (about one ounce to the pint) for this purpose. It will soon dry and can be protected by another glass of the same size fastened by paper strips round the edges.

Two small pieces of paper about one-eighth of an inch in diameter should be fastened on the front, one piece at each of the upper corners, as a guide in putting the slide into the lantern, as it is sometimes very difficult to say which way a slide belonging to another person should be placed when seen for the first time in the very feeble light when the gas is turned down. To repeat, when the writing or drawing is held in the hand, and appears right side up, the two spots should be visible on the upper corners.

Muffed or obscured glass can be purchased cut 3¼ ins. square. Some (the common variety) has a rather coarse grain, some has a very fine grain, this latter should be procured. It is stocked by most photographic dealers. On this surface a hard lead pencil works very nicely. The glass is sufficiently transparent to enable a drawing previously made on paper or in a book to be traced, but is too opaque for the lantern unless it be varnished. For this purpose a thin solution of Canada balsam (preferably the dried form used in histology) dissolved in turpentine or xylol can be poured over the muffed surface. It should be dried with a little extra heat, say by holding it before the fire until the glass is warm and testing if it be sticky when cold. This varnish being nearly of the same refractive index as glass obliterates the surface leaving the pencil lines on apparently transparent glass. The slide should then be mounted and "spotted" as described above.

Various coloured inks may be easily made, which will write on unprepared glass, by dissolving about 10 per cent. of dextrine in a solution of any of the aniline dyes. Eosin and methyl or malachite green are strongly contrasting colours and suitable for this purpose—they should, however, not be mixed. Indian ink similarly thickened is very useful for outlines or writing lists of tabulated matter, &c., the lines or principal words being put in with the coloured inks. These solutions in dextrine can also be used with a brush either pure or diluted to cover large surfaces on the plain glass.

If the glass be previously coated with a varnish composed of gum dammar ten grains dissolved in one ounce of chloroform with a couple of drops of india rubber solution to make it less brittle, any ink may be used without the addition of dextrine, should this be inadvisable.

An ordinary lantern plate when cleared with hyposulphite of soda and washed and dried has a particularly nice surface for writing on with inks, or for colouring with a brush, in this case also dextrine is not necessary.

Ordinary photographs, and especially photographs of book illustrations can be made much more distinct by being coloured or stained. For this purpose it is necessary to have slides which are very transparent and not "fogged" in the portion through which light passes. A "thin" transparency being made apparently more dense by the staining process is often improved more than a denser one. The method consists in painting the various objects in the transparency with a brush charged with a solution of suitable aniline dye dissolved in water. If the gelatin surface of the slide be dry the lines will be hard and spotty, it should therefore be painted while still damp. The nicest time to work is, when the plate has been washed but before it has been let dry. If it has been dried it should be soaked in water for say half an hour. The surface drops of water should then be removed by a clean handkerchief or blotting-paper, and the painting proceeded with.

All aniline dyes will not answer for this purpose, as when they are mixed, in some cases, new chemical bodies are formed which have a very different colour from what one would expect. Thus while some yellows when mixed with blue produce a green colour, picric acid when mixed with methylene blue gives a purplish red in the gelatine film.

The colours which I have found most satisfactory in their capabilities of being mixed, and which answer for most purposes even in painting flowers or landscapes, are:—eosin, chrysoidin, patent tartrazene yellow, and indigo-carmine.* With these a great number of combinations of shades can be made with the same facility as an ordinary paint box.

The gelatine takes the dye very easily—it is only necessary to slightly tint it—as the photograph gives the necessary light and shade. The whole operation can thus be carried out very rapidly. These dyes are very much more transparent than any of the varnish colours formerly used, infinitely more easy of application and practically quite as permanent. To prove this latter I kept a slide coloured with a number of dyes of which one half of each was covered with black paper, before an arc light for three hours, and while some dyes faded a good deal, the amount in those mentioned above was not noticeable, except in the case of eosin of which the most delicate tints faded a little, but the stronger tints did not show much fading. Although these dyes undoubtedly fade by prolonged exposure to sunlight, yet the short time that a slide is allowed to remain in the lantern does not affect it at all. Many of my coloured slides have been used many times during the last few years, yet appear as when first painted.

In conclusion, I hope that some of these methods will prove useful. They are all easy of application. Those mentioned first, though more or less rough, yet will be found to take the place of the blackboard in most cases, which is obviously inconvenient to use when the room has been darkened, and if there are lantern slides of other sorts to be shown, very troublesome, the lights having to be lowered and raised alternately.

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* I have obtained these dyes from Messrs. F. E. Becker & Co., Hatton Wall, Hatton Garden, E.C.

Salivary Calculus in the Parotid Duct causing symptoms simulating Alveolar Abscess.*

By T. E. CONSTANT, M.R.C.S., L.R.C.P., L.D.S.Eng.

Miss M., aged about 50 years, came to me " to have a tooth out." The left cheek was obviously swollen. The swelling had commenced three days previously. The cheek was both painful and tender, but the skin, although tense, was not reddened. The swelling was most prominent in the centre of the cheek. Pressure over the region of the left parotid caused pain. The patient was very nervous, and examination of the mouth in consequence somewhat difficult. The patient said the trouble "commenced with pain in the last tooth of the upper," viz., the left upper second molar. When that tooth was gently tapped she complained of pain, although it was apparently a sound tooth. She said it had been very painful in eating during the last three days. Careful examination, however, enabled me to assure myself that the swelling in the cheek was not connected with either the upper or the lower jaw, and I noticed a greyish appearance at the most prominent part of the swelling in the mucous surface of the cheek. At first I thought it was a commencing slough, but subsequently found it to be due to something white showing through the mucous membrane. With some difficulty I passed a probe into the parotid duct and was able to dislodge a small calculus —about the size of a one grain cocaine tabloid and very much of that shape. I saw the patient again two days later, when the swelling had completely subsided, and the mouth " felt perfectly comfortable."

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* A Communication read at the Meeting of the Midland Counties Branch, Doncaster, on October 23, 1897.

Legal Intelligence.

Prosecutions under the Dentists Act.

AT the Lichfield City Police Court, on Oct. 22, Edwin Benjamin Morgan, of Nechells, Birmingham, and of Tamworth Street, Lichfield, was summoned for obtaining 7s. from Mrs. Gumley by false pretences, and also for unlawfully, wilfully, and falsely using the name of dentist. Mr. Tyler (Birmingham) appeared for the prosecution, and Mr. W. S. Pritchett (instructed by Messrs. Coley and Coley, Birmingham) for the defendant.

Mr. TYLER, in opening the case, said that the law had been so provided as to protect persons who wished to be treated by surgical operation from being so treated by incompetent persons. The Dentists Act was passed in 1878, and it provided that no person should be entitled to use the word dentist, or describe himself as a dentist, unless he was registered in the Dentists' Register.

Mrs. GUMLEY stated that she went with her daughter to the defendant's rooms in Tamworth Street, Lichfield. When she saw him she asked him if he was Mr. Morgan, the dentist, and he replied in the affirmative. He then examined her daughter's teeth, and said that two wanted stopping. It was decided that the teeth should be stopped, at a fee of 3s. 6d. each. She paid him 3s. 6d. She saw the defendant on the following Friday, and asked him if he were Mr. Morgan, the dentist, or his assistant. He asked her why she put the question, and she replied that she thought he might be the assistant. Then he said, "I am Mr. Morgan, the dentist." Upon that her daughter seated herself in the revolving-chair. He filled the two teeth, and she paid him 3s. 6d. She relied upon Mr. Morgan being a dentist, and had seen him advertised as a dentist. In reply to Mr. Pritchett, witness said that she knew Mr. Morgan was a dentist before she saw him, and she simply put the question to be sure of his identity.

Re-examined: If he had said, "I am Mr. Morgan, but I am not a dentist," she would not have employed him.

The daughter, EVA GUMLEY, also gave evidence, and stated that two of her teeth were dressed by the defendant. The dressing, however, came out, and she swallowed it.

Mr. Tyler put in the Dentists' Register.

Mr. PRITCHETT, addressing the Bench for the defendant, said a more preposterous prosecution he had never heard of. This was a criminal prosecution brought against a respectable man who had practised as a dentist for seven or eight years. In order to constitute a charge of this kind it must be made out that the statement relied upon was untrue; secondly, that it influenced the person to pay the money ; and, thirdly, that it was made with the intention to defraud. Not one of these points had been made out. The question put to Mr. Morgan as to whether he was Mr. Morgan, the dentist, was simply put to settle the question of his identity, and had no reference whatever to his qualifications.

The MAYOR said that the charge of obtaining money by false pretences would be dismissed.

Mr. TYLER said that the second summons related to a different matter. The Act laid it down that no person who was not registered was entitled to use or take the title of dentist, and any person infringing the law was liable to a fine of £20. Evidence having been given, Mr. Pritchett contended for the defendant, that the Act was passed to prevent people practising and leading people to suppose that they were registered ; it did not prohibit the practice of dentistry by people who were not registered. The only thing the Act did was to make it illegal for a person to hold himself out to the world as a registered dentist when he was not.

The MAYOR said the Bench considered the case proved, and they fined defendant £2 2s. and the costs. They consented to state a case for a higher court on the point of law.—*Birmingham Daily Post.*

AT the Thames Police Court on Nov. 5, before Mr. Dickenson, Alfred Thomas Wilson Maguire, of 65, Bow Road, was summoned by George Read Matland, under the Dentists Act, 1878, for unlawfully taking and using the name or title of dentist.

Mr. GEORGE HAY YOUNG, who prosecuted, said the summons was taken out under the third section of the Dentists Act, which provided that from August, 1879, a person was not entitled to use the name of dentist unless registered under the Act. Therefore it would be proved that defendant was restricted from using the word "dentist," and by doing so rendered himself liable to a penalty of £20. The defendant carried on business at 65, Bow Road, and on the 25th ult. an exhibition was opened at the People's Palace, where both the complainant and defendant exhibited. The defendant had a show-case on a stall, on which was also a frame containing Press notices. Mr. Matland was struck by finding the word "dentist" in one of the notices. The complainant had a portion of the cutting, down to the word "dentist," copied. Afterwards on going to copy the rest of the notice he found the frame had been turned round, and on turning it round again the defendant's brother interfered. An important point was the cutting in question, which was taken from the *East London Observer*, and appeared in an issue of that paper in July, 1896, thus showing that the defendant had possession of it for some time. Probably the cutting was supplied to the newspaper by the defendant himself, and if it was not it would show that people believed he was a dentist.

Afterwards the word "dentist" was erased from the cutting. It might be said that Mr. Matland was a rival, but there could be no rivalry between a qualified and an unqualified man.

The COMPLAINANT, in answer to Mr. Mitchell, who defended, said that when the defendant exhibited at the exhibition last year he wrote to the People's Palace to try and get his stall removed, but the committee would not consent. Witness was registered under the Act, and a person so registered could advertise. The defendant was not on the register.

In reply to the charge, Mr. MITCHELL said there was no proof that the defendant was there or knew an offence had been committed, but taking the case at its strongest what did it amount to? A press cutting, with the inspiration of which he had nothing to do. The case was entirely different to one where the man was neither qualified nor registered. Last year Mr. Maguire exhibited at the exhibition and was not interfered with.

Mr. DICKINSON said the defendant ought to have struck the word "dentist" out of the notice. The case had very rightly been brought before the Court, but as the offence was a technical one there would only be a penalty of 1s. and 23s. costs.—*The Morning Advertiser.*

Reports of Societies and other Meetings.

Odontological Society of Great Britain.

THE ordinary monthly meeting of this Society was held at the rooms of the Society, on Monday, November 1, 1897, Mr. W. E. HARDING, L.D.S. (President), in the chair.

The SECRETARY read the minutes of the last meeting, which were confirmed.

The following gentlemen were then balloted for and unanimously elected members of the Society: W. H. Dolamore, L.R.C.P., M.R.C.S., L.D.S.Eng., 37, Queen Anne Street, W.; Stephen Keele, L.D.S.Eng., 16, Highbury Place, N. (*as Resident Members*). Norris Snell, L.D.S. Eng., 11, Museum Street, Norwich; Arthur W. Turton, L.D.S.Eng., Belgravia, Goole, Yorks. (*as Non-Resident Members*).

The LIBRARIAN announced the receipt of the following donations: "Dental Surgery for Medical Practitioners," by A. W. Barrett, M.B.; "Some Methods and Appliances in Operative and Mechanical Dentistry," by R. P. Lennox, the *Calendar of the Royal College of Surgeons*, 1897; *Transactions of the New York Odontological Society*, 1896, and the "Year Book of the United States Department of Agriculture," 1896. He also reported that Tomes' "Dental Surgery" fourth edition, had been added to the library.

The CURATOR presented, on behalf of Mr. Charters White, a specimen of amateur dentistry which consisted of a small bone plate with two rudely carved teeth representing lower central incisors. These teeth and the two natural lower lateral incisors had been bound together by a piece of silver wire.

Mr. H. L. ALBERT showed two maxillary deciduous incisors with a well developed cusp in the palatal surface. The teeth were removed on account of the irritation to the tongue caused by the cusps.

Mr. BRUNTON exhibited a tooth (right maxillary second bicuspid) which he had removed by means of two rubber rings. He also showed (1) two pairs of gold pluggers which he found useful, one especially for matrix work and the other for surface work; (2) a pair of burnishers, right and left; (3) two pairs of pliers for carrying amalgam to the cavity, which he said were also useful for carrying gold cylinders; (4) a small instrument for carrying sponges, for use with the dental engine; (5) a lamp for purifying the air, but which could also be used for annealing gold. It was an ordinary glass spirit lamp filled with methyl alcohol. A sheet of platina foil, crushed together in the centre and drawn up to a point at the bottom, was placed over the wick of the lamp and worked up to form a ball. The lamp was lighted and the flame allowed to heat the platina, and on the flame being put out the lamp continued to glow until the spirit was exhausted. The slow combustion of methyl alcohol under the influence of platinum produces formaldehyde, which acts as a powerful disinfectant.

Mr. HARRY BALDWIN related a case in which a young girl came to him for the purpose of having her teeth regulated, and the complaint about previous treatment was that the upper central, which was being acted upon, had become exceedingly loose and painful. The central incisor had been nearly lost by the use of a rubber ring, which had been used for regulation, and which had been overlooked.

Mr. STORER BENNETT referred to a case of a man who was a hæmophiliac, and for whom it was absolutely necessary to extract a tooth which was causing much trouble to his tongue. Mr. Bennett resorted to the use of an elastic band; it took a good many days to get the tooth out, and caused a good deal of pain to the patient. In cases where very severe hæmorrhage was feared, and where one knew it would be very difficult to control the hæmorrhage, the method was, he thought, often of extreme value.

Mr. RUSHTON mentioned a case in which four teeth were lost from being ligatured by india-rubber.

Mr. W. A. MAGGS showed a fragment of the left half of a human mandible, with a tooth lying embedded horizontally in the bone. The ramus and the alveolar portion, as far forwards as the socket of the left canine, were in a state of good preservation. The specimen showed the sockets of the second premolar, and the first molar teeth and the second molar fully erupted. The unerupted tooth was fully developed, with the apex of the root in contact with the canine socket, the crown immediately above the mental foramen, and the mesial surface placed anteriorly. Mr. Maggs said that in his opinion the embedded tooth was the first premolar. He regretted he was unable to give any particulars as to where the mandible was found, and he expressed the view that it was probably that of a young adult, under 20, and he formed this opinion from the well-marked surfaces for the attachment of muscles. The age of the mandible was open to discussion, and judging alone from the molar tooth it indicated that of an older person.

Mr. ROUGHTON read the notes of the following case of acute suppuration of the mandible, followed by pyæmia and death :—L. N., a boy aged 7½ years, sat in a draught at school on October 1. The same night he complained of pain in the left side of the face. On October 2 he was seen by his doctor who found the left side of the face swollen, and temperature 105°. The gum over the left lower molar region was swollen and tender, but the mouth could not be opened sufficiently to inspect the teeth. On October 3, the condition was unchanged. On October 4, the pain and swelling were less, but temperature still high (103°). On October 5, rigors occurred. On October 6 the swelling of the face was less, but had extended to the parts under the jaw as if an alveolar abscess were about to point. Slightly delirious. On October 7 the swelling had extended farther down the neck almost to the clavicle. Chloroform was administered and the swelling in the neck incised ; no pus was evacuated, but the tissues looked inflamed and as if about to slough. On opening the mouth the teeth in the affected part of the jaw were found healthy, but the first permanent molar was quite loose, and pus welled up around it on making pressure on the gum. The tooth was removed and the pus evacuated, and the part cleaned as effectually as circumstances permitted. The tooth was quite sound. On October 8, symptoms of peritonitis appeared in the morning, and later in the day there were physical signs of pneumonia. On October 9, the patient died. No *post-mortem* examination was permitted.

Mr. GOADBY and Dr. HICKMAN recorded a somewhat similar case.

The PRESIDENT (Mr. W. E. Harding) then delivered his Presidential Address and the meeting adjourned.

The Röntgen Society.

THE recently established Röntgen Society held a highly successful inaugural meeting and *conversazione* on the 5th inst., which was numerously attended by those interested and concerned in X-ray work, from both the physical and surgical points of view. The address of the President, Professor Sylvanus Thompson, has been largely reported in the daily press. The principal practical points which may be summarised from his luminous and exhaustive discourse are that no other source of the particular radiation designed as Rontgen or X-ray has yet been discovered than the point of impact of cathode rays within the Crookes' tube. The nature of these rays is still quite unknown, being regarded as of the ultra-violet or short wave order of transverse vibrations of light by some speculators, while others consider that longitudinal ether vibrations better explained the phenomena. It had also been imagined that the corpuscular theory of atom streams, or that of rectilinear electric disturbance, would have to be adopted. Certainly the rays had not shown appreciable reflection, refraction, polarisation, or magnetic deflection, as would be expected of any kind of ordinary light waves. They had been proved non-homogeneous, the components having various penetrative and physical powers, which might ultimately be taken advantage of in the discrimination of tissues, somewhat as mono-chromatic light was used in microscopy and photography. The best form of generator yet in use for surgical purposes was what was known as the focus tube, which was best excited by an ordinary induction coil of the Apps pattern. The employment with this of any auxiliary high frequency coil was quite unnecessary. Increased purity of manufacture had kept the platino barium cyanide as much the best fluorescent screen. Specially adapted sensitive films and plates had reduced the photographic exposure to a few seconds only for many cases, and the accelerating screen for intensification or rapidity was best dispensed with for sharpness of definition. Professor Thomson concluded a brilliant address, in which his own great contributions to the subject were modestly ignored, by expressing a conviction that the new and subtle agent of research, which already had almost revolutionised major surgery, was certain to not only equip us with a mighty means of diagnosis, but also enlarge the knowledge of pathology and living anatomy; and he prophesied an unlimited development of uses for the Röntgen effect and its derivatives in the future.

Probably never before has so large an assemblage of results and the instruments of X-ray work been brought together. Foremost in evidence were the skiagraphs innumerable, showing not only that the largest of human limbs but the trunk itself can be shadowed forth, with discrimination of bones and softer tissues. The clear discernment and differentiation of anatomical elements among the softer parts is still left for future developments, but already the larger visceras, such as the heart, can be clearly observed. A very notable exhibit, sent from America by Dr. Morton, was the skiagraph, full length, of a human adult figure. Particulars of this were not obtainable, but the subject was thin—probably deliberately so chosen, and apparently taken reclining. Distance of radiant point and exposure time were not given. Comparative shadows of bloodless and turgid hands were interesting and suggestive. Of more general scientific interest were microskiagrams of sections of metals and alloys, opening up entirely new methods of investigating molecular structure and constitution. Biological and conchological objects of extreme beauty, which were so greatly admired when exhibited to the Linnean Society, were shown by Mr. Gardiner. The general literature of the subject—surgical, physical, and biological—is already considerable. In England a journal devoted to the subject—a quarterly now in its second volume—was started as *The Archives of Skiagraphy*, but re-named *Archives of the Röntgen Ray*. Those wishing to follow and take advantage of the latest research in the new science may also be referred to the classical work by the honorary secretary of the new Society, Dr. David Walsh, entitled "The Röntgen Rays in Medical Work," published by our publishers, Messrs. Bailliere, Tindall, & Cox. Particulars of the Society and its membership may be obtained of Dr. Walsh, 5, Pump Court, Temple, E.C.

The Society of Anæsthetists.

THE Fifth Annual Meeting of this Society was held at Limmer's Hotel, Conduit Street, on October 21, Mr. G. H. BAILEY (President) in the Chair. The reports of the Council and Treasurer described the condition of the Society as prosperous.

The following officers for the coming year were elected :—

PRESIDENT.—Dr. Dudley W. Buxton.

TREASURER.—Mr. Joseph White.

MEMBERS OF COUNCIL.—Mr. C. Carter Braine, Mr. Theodore G. Burns, Mr. Alexander Wilson (Manchester).

SECRETARIES.—Mr. E. A. Starling (Tunbridge Wells), Mr. R. Turle (Bakewell).

AUDITORS.—Mr. Edgar Willett, Mr Sydney Rumboll (Leeds).

A dinner, well attended by members and their guests, afterwards took place, under the chairmanship of Dr. Dudley Buxton.

Charing Cross Hospital Past and Present Students' Annual Dinner.

THE Twentieth Annual Dinner of the Past and Present Students of Charing Gross Hospital was held at Holborn Restaurant on Friday, October 22. Over 150 were present, and the chair was occupied by Surgeon-Major JAMES, F.R.C.S., himself an old student. After dinner speeches were made by the Chairman, Dr. Watt Black, Dr. Murray, Dr. Woollett, Mr. Cantlie, and Mr. C. T. Bishop. The latter, as

Secretary of the Students' Club, humorously appealed to the Old Students present for donations towards improving the decorations of the refreshment room now owned by the Club. Cheers having been given for the Chairman, the dinner terminated after a pleasant evening.

Abstracts and Translations.

Pyorrhœa Alveolaris.*

By J. W. WASSALL, M.D., D.D.S., Chicago, Ill.

THE statement was made at a recent meeting of the Chicago Dental Society that more human teeth were lost from this malady than from dental caries. The idea to me was a startling one, but a little reflection convinced me of its reasonableness. It might be more true to the facts to say that caries was the arch enemy of childhood and youth, while pyorrhœa alveolaris was the destroyer after the age of 30. I have chosen this subject, therefore, because I am impressed with its great importance in dental practice, and because its consideration by this body will not fail to throw some light upon it.

The disease of pyorrhœa alveolaris may be discussed by dividing the subject into the following six general headings, viz. :

(1) Definition.
(2) Symptomatology.
(3) Pathology.
(4) Etiology.
(5) Treatment.
(6) Prophylaxis.

First, *definition.*—The dictionaries of medical and dental science give very inadequate definitions. Black, "American System of Dentistry," vol. i., defines phagedenic pericementitis as a specific, infectious inflammation having its beginnings in the gingivæ and accompanied with destruction of the peridental membranes and alveolar walls. Dr. Black's paper at Quincy in 1882 was the first real attempt at a scientific description of this disorder before this Society. His appellation of the disease given at that time seems more appropriate philologically and scientifically, but common usage has given the term pyorrhœa alveolaris its stamp of greater authority.

Second, *symptomatology.* — There are two classes of symptoms, subjective, or those experienced by the patient and objective, or those obvious to the operator.

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* Read before the Illinois State Dental Society, May, 1897.

The most prominent subjective symptom is pain. Pain may be localised in the alveolar tissue, or be reflex in remoter parts of the cranium, face or neck. It will vary in degree from a trifling uneasiness to intense suffering. The tooth, the socket of which is affected, may be elongated or tender to percussion. The patient is frequently, but not always, conscious of a discharge from the alveolus, having a fœtid odour or taste. The patient will usually give a history of periods of comparative comfort followed by marked exacerbation of all the painful symptoms, but each attack leaving the tooth a trifle more loosened.

The objective symptoms during an acute attack of pyorrhœa alveolaris will be the characteristic signs of inflammation, viz., heat, redness, pain and swelling; if the disease is of long standing a deficiency of alveolar and of gingival tissue. The existence of so-called "pockets" about the gingival line is pathognomonic and the infallible diagnostic sign of the disorder. The extent and depth of pockets varies from a slight solution of continuity in the peridental tissue to a complete severing of the roots' connection from its sockets. Pressure on the gum over a pocket will produce a discharge of pus. The use of the sound or probe will reveal to the educated digit the presence of a deposit of calculus upon the cementum. These symptoms are not always constant, but are present in varying degrees according as a case is in an active or passive stage.

Third, pathology.—The nature of the diseased conditions present in the acute and chronic stages of pyorrhœa alveolaris is described under the preceding heading in part, and will be more fully considered under etiology. I desire, however, to refer to a condition described by many writers which has not received a proper interpretation. I refer to the occasional presence of a deposit of calculus on the root having no external communication with a pocket or gingival margin. The statement is sometimes made that such a condition occurs, and that it gives rise to an acute attack with all the usual symptoms except the absence of a connecting pocket. It seems highly improbable from what is known of the formation of pockets in pyorrhœa alveolaris that this condition could arise *de novo* as described. Is it not more reasonable to attribute the condition to nature's attempt to close up a pocket after the subsidence of an acute attack by which the deep end of the pocket—the bottom of the pocket, so to speak—is left as a *cul-de-sac* containing its scale of calculus on the roots together with the several varieties of pathogenic bacteria which will ultimately give rise to further outbreaks of the acute attacks? A condition of the gravest consideration under the head of pathology is the wasting of the alveolar process. This is due to the destruction of the peridental membrane which undoubtedly has occurred wherever pockets have formed. The peridental membrane is the alveolo-dental periosteum, being the periosteum of the alveolar wall next to the root as well as the periosteum of the root. Its disappearance would deprive the process at such points of nutrition and would sufficiently account for the wasting of the bony structure.

Fourth, etiology.—The cause of pyorrhœa alveolaris is still involved in mystery. While there have been many theories advanced and the best thought of the profession has been given to the subject, thus far nothing conclusive has been established. There seem to be advocated, first, that the cause of the disease is purely local; second, that it is constitutional, and third, that it is of local and constitutional origin combined.

The argument so often advanced that the disease must be purely local because local treatment will result in its disappearance would at first glance seem to be conclusive. But a closer examination of this claim shows its fallacy. For by the same reasoning eczema, the local manifestations of which are removed by topical treatment, could be called a local affection when its constitutional origin is a well-known fact.

A more satisfactory cause to my mind is proposed by Drs. Pierce and Kirk, viz., the uric acid theory, but the value of their claims is still speculative. While I do not deny that their claim may be correct, I am not prepared to accept their proposition that the deposits of pyorrhœa alveolaris are equivalent or analogous to the calcareous deposits of the uric acid diathesis. Dr. Black has demonstrated by his analyses that uric acid may be present in all deposits upon the teeth, salivary or serumal, irrespective of the fact of the presence of pyorrhœa alveolaris. If the serumal deposits of pyorrhœa alveolaris were identical with the calcareous deposits in the joints of gouty or rheumatic subjects why is it that the deposits on the roots of teeth never occur as loose nodules in the peridental membrane? I wish to assert that I am unconvinced that pyorrhœa deposits originate *de novo* unless situated in pockets. The chemical analysis of any calculus taken from an individual of the uric acid diathesis—and the uric acid diathesis is very prevalent—would naturally reveal the presence of uric acid. Would you infer that stone in the bladder and its accompanying irritation was due to gout because analysis yielded uric acid crystals? I have brought before you these few objections to the uric acid theory not because I disbelieve in it entirely but in order to show that the ground upon which its advocates stand is not yet assured.

The causative agency of the calculary deposits in pyorrhœa has always been a matter of doubt. While it is almost unquestioned that a pocket precedes the formation of a deposit, yet it is plain to every observer that the presence of serumal calculus aggravates all the symptoms and accelerates the progress of the disease. Salivary calculus is important as a predisposing cause of pyorrhœa alveolaris, in that it establishes a lesion of the gingivus, a condition favourable to the development of the disease.

I wish to suggest a constitutional disorder which seems in my judgment to bear an important relation to this affection. It is eczema. All observers seem to agree that the scrofulous tendency or dyscrasia is very favourable to the development of pyorrhœa alveolaris. Scrofulous persons are invariable subjects to impairment of the integument or of the tegumentary appendages. It may take one form or another. In one family it will be early failing of the hair bulbs ; in another, dryness of the cuticle. All such are tegumentary degenerates, and it is my experience that very few cases of pyorrhœa alveolaris come under my notice in which I cannot find some indication of eczema.

The infectious character of pyorrhœa alveolaris has been noticed by many observers. Dr. Black, in his article before referred to, states it as his belief that the bacteria which are found to abound in the discharge stand in an important causative relation to the disorder. So far as I can learn, no one species has been isolated which will give rise to the disease by inoculating the peridental membranes of the lower animals. There is here open a fruitful field for study and investigation. The disease is in all probability caused by a germ or its toxines, and it is only a question of time when the particular species will be demonstrated.

Fifth, *treatment*.—The constitutional origin of pyorrhœa alveolaris is so much involved in mystery at this time that there is no basis for systematic treatment. So far as I am able to learn, there is also not even an empirical method of systematic treatment of any special value. We are therefore driven to the other alternative and forced to rely on local treatment until such time as further investigation shall have revealed the truth to us.

For the same reason local treatment is carried on in the dark, but we know that in this direction only can we obtain any really satisfactory results.

When a case presents it should be the first duty to make a thorough examination. The gingivus of each tooth should be carefully sounded for pockets, and when one is found its location, depth and width should be accurately indicated on the diagnosis chart.

The treatment should consist first, of the removal of calculus ; second, medication ; third, the securing of rest and protection.

The location and removal of calculus is often one of the most complex and trying operations the dental practitioner is called upon to perform. There is nothing I can add to what has been said upon this question. Each must put forth his best skill and ingenuity to accomplish the end sought. It is perseverance, the educated digit and concentration of mind upon the cutting edge of the instrument which should mainly be depended upon.

Cocaine anæsthesia may be used in painful cases.

In some examinations of cementum of teeth affected with pyorrhœa alveolaris reported by Dr. George B. Clement at the World's Columbian Dental Congress he asserts that the superficial lacunæ and canaliculi become solidified by calcific deposit. It therefore becomes a matter of much importance after removing the serumal calculus to also take away this layer of solidified cementum. Indeed it has seemed to me that success in obtaining adhesion of the new growth of pericementum to the cementum is entirely dependent upon the ability to present a freshly exposed surface of normal cementum to the new granulations.

All operations should be accompanied with a free use of a powerful stream of warm water from a small nozzled syringe.

Medication should consist at the first visit of, first, disinfection to remove all traces of bacteria; second, of a vigorous escharotic to destroy pernicious tissue and to act as an alterative and establish a healthy action which is the proper surgical treatment for any ulcerative surface.

To secure rest cusps should be shortened with the corundum, and if there is any loosening some sort of a splint should be adjusted—metallic bands, pure silver or gold preferably, or waxed silk ligatures.

The mouth is such a favourable habitat for the myriads of pathogenic bacteria that it would be eminently desirable if it were possible to seal up the external openings of pyorrhœal pockets. I have not as yet had any experience in such a procedure, but I believe it is feasible, and some effective way should be employed.

Subsequent treatment should be made with the utmost care not to break up any reparative processes which have begun. Failures are often occasioned by careless probing or uncalled-for force in injecting medicaments at this stage. Search for deposits overlooked at the first treatment should not be made unless there is positive evidence of their presence by failure of the pockets to close. Disinfectants and stimulants at varying intervals of from one to seven days are indicated until a cure is obtained.

As every patient once afflicted with this disease is subject to a recurrence, prophylactic measures become an important consideration. Maintaining a robust general health, vigorous friction with tooth brushes regularly applied at bedtime and on arising—having four brushes in use so that they are not water soaked when employed—and the rubbing continued for three or four minutes, to be followed with a disinfectant mouth wash—the fluid to be retained in the mouth three minutes—are the measures from which I have observed good results. Pyorrhœa subjects should have the mouth examined for pockets every three months.—*The Dental Review.*

A Case of Eruption of the Right Upper Central Incisor through the Lip Late in Life.

By HEINRICH NIEMEYER, Delmenhorst.

(Translated from the *Deutsche Monatschrift für Zahnheilkunde.*)

THE patient in question was a woman, about 60 years of age, of rather weak intellect and very deaf, and was first seen on May 16, 1896. I observed below her nose exactly in the median line of her upper lip a white shiny elevation about the size of a pea, which on closer examination proved to be the cutting edge of a tooth which had completely penetrated the external covering of the upper lip. The edges of the opening of the exit were rather strongly tumefied, brownish-red, and covered with dried pus. The lip was completely pierced by the crown of the tooth and fixed upon the gum of the alveolar process as if with a peg. In consequence of the lessened power of movement of the upper lip caused thereby speech was impeded and indistinct.

It must also be mentioned here that neither the right nor the left upper jaw, except the tooth in question, contained any other teeth or remnants of such, and from the advanced atrophy of the alveolar process one was led to conclude that they had been absent from the mouth for a long time.

The only possible treatment indicated was the extraction of the misplaced tooth. This, at first sight, appeared to be very difficult, as the lip could absolutely not be lifted from the alveolar process, there was only left the possibility of extraction through the lip.

At first I feared that I should be obliged to enlarge the opening in the lip with a lancet or scissors, but refrained for the moment because the large scar which would have resulted would have caused much contraction of the upper lip, which, normally short, had been still further shortened through the inflammation which had taken place. I therefore made an endeavour to remove the tooth with a narrow, slender bayonet forceps to push aside somewhat the edges of the wound. By this means I succeeded in gripping the crown of the tooth, and the root, which was very firm, was removed with comparative ease.

The extracted tooth proved to be the right upper central incisor, of moderately normal structure; it possessed a comparatively short, thick root, which was slightly curved at the apex, and was situated on the right side of the median line of the upper jaw in a perfectly horizontal position. Of the three still very well preserved enamel points on the cutting edge, the characteristic feature of teeth which have been only recently erupted, the mesial one, so the examination of the extracted tooth showed, had been broken off during the extraction; at this one need not be surprised, as the enamel had been completely undermined by caries at the spot in question, the caries reaching a good distance into the dentine. The alveolus was quite healthy.

The further treatment, immediately after the extraction, consisted of careful syringing of the wound caused by extraction, and the wound in the lip with carbolic solution, energetic cauterization of the edges of the wound of the upper lip with nitrate of silver for the purpose of furthering the formation of granulations, and the plugging of the alveolus and lip with iodoform gauze.

On the following day, May 17, the appearance of the wound had considerably improved ; it was syringed again, plugged with iodoform gauze, and the lip wound was painted with tincture of iodine. On May 18 the syringing was repeated again, and the patient, owing to the good progress in the healing process, was requested not to call before May 21, it was hoped, for the final consultation. The wound healing quite normally further treatment was dispensed with.

From this case it becomes evident once more what a great tendency there is for wounds to heal in the region of the mouth, even if they are of long standing. As far as could be gathered from the recollection of the patient herself, although on account of her weak intelligence great accuracy must not be expected, there occurred two years previously a swelling of the middle portion of the upper lip ; pus then appeared, and finally (when, unfortunately, could not be discovered) to the surprise of everybody a tooth was erupted through the outer skin covering of the upper lip at the point indicated. That the condition had existed for a long time could be seen with certainty from the appearance of the point of exit of the tooth, which has been described more in detail above.

It may be mentioned as a curiosity that the patient, as well as her relations, attribute the otherwise inexplicable appearance of the tooth in the lip to an accident which befel the patient 40 years ago, when a cow severely injured her mouth by butting her.

As to our own view of the case recorded above, we may shortly state it as follows :—It is not a case of hyper-dentition, or even of a third dentition, if the latter expression be permissible at all, but rather it is a case of very late eruption of a retained, and at the same time quite defectively placed tooth. The right upper central incisor in question, although formed at the normal period, did not appear in the dental arch during the normal period of eruption of the incisors, but was kept back in its bony crypt in consequence of its abnormal development and position in the jaw, which in their turn may have been caused through want of space.

Whether the upper row of teeth had stood close together, or if there was a gap present, could, unfortunately, not be proved, but is of no consequence here, as the identity of the tooth under discussion is established, it being a right upper central incisor.

The retained, and at the same time misplaced tooth, after being impacted in the jaw for about fifty years without betraying its existence through any symptoms or troubles, when the neighbouring teeth, whose roots to a certain extent stood in its way and prevented its eruption had disappeared, emerged with its cutting edge from the atrophied alveolar process, according to its abnormal horizontal position in the jaw, and passed directly into the transition-fold between the gum and the upper lip. In its further course, in consequence of the continuous pressure, it gradually bored through the mucous membrane of the lip, and its muscular apparatus, which impeded its complete eruption, and finally the tooth, penetrated the skin.

The foregoing case from practice appeared to me worth citing, for three factors contribute to make it interesting. They are :—(1) The relatively rarely occurring retention of a central incisor tooth. (2) The eruption of a tooth at a late period of life. (3) The abnormal point of eruption of the tooth in the lip. Doubtlessly any tooth, even if it is present, quite normally developed in the jaw, may, through various circumstances, be prevented from coming through. The impediments to eruption are chiefly :—(*a*) Defective position of the retained tooth itself. (*b*) Abnormal position of the roots of the neighbouring teeth, already erupted. (*c*) Want of space ; this occurs where, with the normal size of the teeth, the jaw has lagged behind in its development, or where the jaw is of normal structure, the teeth are abnormally large. (*d*) Particularly strong bone formation, sometimes also of a pathological nature, at the normal point of eruption. This is probably frequently caused through thick cicatrisations of wounds after the extraction of milk teeth (J. Scheff, " Handbuch der Zahnheilkunde," vol. i., p. 543).

As regards, however, the frequency of this occurrence—the so-called retention—there exists a very great difference between the individual groups of teeth. While the third molars, and after them the upper canines have, perhaps, the greatest inclination to remain hidden in the jaw, because at the time when they are supposed to be erupted the place intended for them is frequently occupied by neighbouring teeth ; the upper central incisors, as regards the occurrence of retention, are least subject to this peculiarity. At all events, in the literature known to me there are only scanty references to retentions of upper central incisors. In reference to eruption of teeth in advanced age, there are comparatively many cases recorded in literarature of the eruption of one or more teeth in old age. This mostly occurs only after the jawbones have become atrophied through the loss of some or of all teeth, and the influence of age. Formerly, in these cases, a so-called *dentitio tertia* was assumed. According to the present position of the science this possibility must be entirely excluded ; one rather considers that in all instances it is a question of the late eruption of retained teeth, or of supernumerary teeth, which were formed at the normal period, but which for some of the reasons mentioned above did not become erupted. After the removals of the impediments they may later make their appearance after lying concealed for a long series of years in the depth of the jaw, as happened in our case.

If a tooth which is retained, and is also defectively placed in addition ("Retention with Heterotopia," Virchow) is erupted in advanced life, the eruption may occur far away from the normal place. Thus, for instance, upper canines frequently appear on the hard palate. Further, according to Baume ("Lehrbuch der Zahnheilkunde," vol. i. Auflage, p. 135), and Sternfeld (Scheff, "Handbuch der Zahnheilkunde," vol. i., p. 476), the existence of complete tooth-crowns in the antrum of Highmore has been proved.

Accounts of such rare aberrations of teeth are noted here and there in literature—mostly, it is true, without particulars. These are missing, also, in a very noteworthy case, which Baume quotes in his "Handbook," p. 135. He writes as follows :—"A remarkable case is that of a wisdom tooth. The tooth was in an inverted position ; the consequence was that the tooth was erupted on the external side of the face, in the region of the angle of the jaw."

The latter case, as far as my knowledge goes, is the only one recorded in literature where a tooth in erupting has penetrated the external skin ; it bears the greatest similarity to the one recorded by me. A case to equal this I have not found anywhere, in spite of every search.

[Two cases in which teeth in erupting have penetrated the skin are recorded in Tomes' "Dental Surgery," 4th edition, p. 188.—Ed. *J.B.D.A.*]

Two Cases of Hæmophilia.

BY M. HOWARD FUSSELL, M.D.

THE subjects were two brothers, E. and H. C., natives of Camden, N.J., U.S.A., with the following family history. The maternal parents were healthy, with no known tendency to bleeding. Paternal grandfather died of phthisis pulmonalis, at the age of 45, with hæmoptysis. No other bleeding known. Paternal grandmother is still living and healthy. A paternal great-uncle was subject to hæmorrhages, and when young was found dead in bed from hæmorrhage from some unknown point. The father was subject to epistaxis, which was especially marked when young. The mother is a brown-haired, healthy woman of 40, without any tendency to bleed. No hæmorrhages among uncles or aunts. They have one sister, a child two years old, who has never had any tendency to bleed.

CASE I.—E. C., 10 years old, white, native of U.S.A. Never been ill except measles, chicken-pox, and whooping-cough. These attacks were very light. When a baby, was cut with a bottle, bleeding a long time. Just before 3 years of age had epistaxis, frequently bleeding without cause. About the same time cut knuckle of right index finger, which bled for one week ; hæmorrhage had to be treated by a physician. A small abscess was cut in the forehead, and bled for a long while. At 5 years old, fell, cut forehead on a stone (slight cut) which bled rather profusely, was controlled by a bandage ; the next morning was bleeding through the bandage. In a day or two this was sewed up ; these stitches ulcerated through. When stitches were put in the blood spurted through the needle holes. It was finally controlled by harelip pins. About 6 years of age had a cut on lip which was controlled by sewing. He had a tooth pulled a week ago (milk tooth) which has continued to bleed ever since.

May 18—Every time he has an attack of bleeding he has a pain in left ankle. At present there is a clot occupying the seat of first molar, which bleeds very readily on being touched. Weight, 56 lbs. ; height, 4 ft. 1½ in. Patient rather pale. The chest somewhat pigeon-shaped, the right costal border more prominent than the left. There is a slight beading of the cartilages. Heart dulness normal ; apex beat in normal position. At base of heart first sound rather weak ; the second sound is loud ; slight murmur with second sound at pulmonary cartilage. Hum in vessels both sides of neck, louder at left. No abnormal dulness over lungs. Breath sounds normal. Splenic dulness from seventh rib to margin. Midway between anterior axillary line and nipple line to a line let fall from the middle of scapula posteriorly. The top of the spleen can be felt just below the ribs ; when he takes a long breath can be felt to move beneath the fingers. Teeth : he has second incisors ; the cutting edge is irregular. Six-year molars are present, and the left bicuspids. Post-cervical glands are enlarged ; inguinal glands are enlarged ; epitrochlear and axillary are not. Liver dulness : upper dulness sixth rib extending to the edge of the rib. The edge cannot be felt below the ribs.

The abdomen is not distended. The superficial vessels are rather prominent over chest. There is a slight bowing of tibia. The right ankle-joint is not especially enlarged, although it is a large joint. The left ankle-joint is larger than right, though the bony prominences are not much enlarged. The knee-joints are normal ; wrist-joints are not enlarged ; child has bled profusely at times, and been very weak therefrom. Numerous subcutaneous bruises in the legs. Very slight œdema of the skin over both tibiæ. Eyes normal. Was given 5 gr. calcium chloride and 3 gr. Blaud's pill. Scar about 1¼ in. long, and showing cross marks from harelip needles, directly over the right eye.

May 25.—A diastolic and also a systolic murmur and pulmonary cartilage and a loud hum in vessels of neck. The tooth stopped bleeding three days after last visit.

June 1.—Extracted a tooth yesterday, and it bled very little. Has a better colour. Careful examination of blood by Dr. A. E. Taylor, of the Pepper Clinical Laboratory, shows hæmoglobin 50 per cent.; red corpuscles 4,500,000, white corpuscles 14,000.

July 13.—Bled from nose for three days. This bleeding began after a blow on the nose. He had fever all last week. Over the second rib on the anterior part of right chest is a large subcutaneous hæmorrhage.

August 2.—Since last visit had purulent discharge from both ears. To-day he seems to be in excellent condition; hæmoglobin is 40 per cent. There has been no severe bleeding in the past three months.

CASE II.—H. C., aged 4 years. Catarrh of bowels when 2 months old; marasmus, no bleeding. When 11 months old fell out of bed and struck his head; head was swollen to a large size ("as large as a water bucket") first on one side and then on the other. He became unconscious in about twelve hours, and remained so for about twenty-four hours. He became rapidly better, but was left with a cystic condition of left side of scalp for three months, which has now entirely disappeared. Had chicken-pox slightly. When about 1 year old he fell and knocked a tooth loose, which bled for one week; then bled from nose from a fall. Has had a continued epistaxis without any cause, which lasts sometimes for twenty-four hours. About two years ago had bleeding from a bruise on head, but the blood came from nose. Then bled from another cut on forehead. During an attack of bleeding from nose had an attack of palpitation of heart, which lasted a few days and disappeared (mother thinks his heart often beats hard). Two years ago cut on forehead, which bled for ten days, and was controlled by "powder," and then finally by harelip needles; bled six hours after needles were used. At present nose is bleeding; pale; post cervical and inguinal glands are enlarged. Chest good shape, no beading of ribs. Heart sounds: light systolic whiff over body of heart; no murmur. Splenic dulness slightly increased. The anterior axillary extends to eighth rib; posterior axillary to eighth rib. The edge can be felt at edge of ribs. Liver dulness normal. There is a subcutaneous hæmorrhage on the inner aspect of left arm, size of half a dollar and quite hard. Over the legs there were a number of old hæmorrhages subcutaneous, which are still hard. The tibiæ bowed, especially the right. Joints normal. Head large, superficial veins of head enlarged, fontanelles closed, teeth normal. Hair light-brown and quite thin. Abdomen normal. Gastro-intestinal disorders, as a rule. The child has bled so much at times that he has as a result been excessively weak.

May 25.—Double murmur at the pulmonary cartilage. This boy did not take iron, and the hæmoglobin is 40 per cent.

June 1.—Better; no more bleeding.

June 15.—Hæmoglobin 40 per cent. Red corpuscles, 3,450,000; white corpuscles, 15,000. No change in the appearance of the leucocytes.

July 13.—One week ago the nose bled for forty-eight hours ; it began during the night. On the extensor surface of the right foot is a large subcutaneous hæmorrhage, otherwise the child is in good condition.

August 2.—On July 29 had a fall which hurt the right side. On the right side reaching from the axilla to the margin of the ribs, and from the nipple line to the scapula is a large subcutaneous hæmorrhage which extends one inch above the level of the chest. It is of a dark red colour. At the edges it is of a greenish colour. It gives a sensation of fluctuation. Temperature 99·5°. Hæmoglobin 40 per cent. Red corpuscles, 3,600,000.

August 16.—The subcutaneous hæmorrhage has entirely disappeared, leaving only a bruised spot. Has had no bleeding since last visit. For past two days has had toothache. Alongside of the last right molar is a clot of blood reaching halfway to the crown of the tooth. Both children have been continuing on 5 gr. doses of chloride of calcium given three times a day, together with 5 gr. Blaud's pill. The mother thinks their tendency to bleed is about the same as before they began treatment. There has been no severe external bleedings, and except for the evident anæmia they both seem to be in good condition. No acute joint lesions have occurred during the observations.—*Brit. Med. Journal, Oct.* 30.

Traumatic Aneurysm of Internal Maxillary treated by Ligature of Common Carotid.

By H. LANGLEY BROWNE, F.R.C.S.E., West Bromwich.

J. P., aged 32 years, married, employed as a boatman, was admitted to the District Hospital, West Bromwich, on March 12, at 4.15 p.m., suffering from lacerated wound of scalp, punctured wound of right cheek, and concussion of brain arising from kick of a horse. The patient had been standing close to the horse's hindquarters, and stooped to pick up and fasten a trace chain, when the horse moved forward and flung out, inflicting the injury. The patient leads a healthy outdoor life, is well clothed and has a comfortable home, and has never before suffered by an injury incapacitating him from work. He is a moderate user of both beer and tobacco.

Family History.—Good on both sides. Mother still alive and in good health ; father killed in pit. Two brothers and one sister alive and well.

Condition on Admission.—The patient was semi-conscious on admission and suffering from shock. He was bleeding profusely from cheek (right), ear (right), nose and scalp. The right side of the face was much swollen, the right eye was completely closed, and the swelling extended about half way down the neck.

On examination the lower jaw was found fractured on the left side close to the symphysis, and on the right side through the neck of jaw. Crepitus was also detected over the right malar bone.

The scalp wound and the punctured wound of cheek were thoroughly cleansed with carbolic lotion (1 in 20), and carbolic dressing applied. The ear was syringed out with carbolic lotion (1 in 80), and pulv. acid. borac. insufflated. The ear was syringed out, and then insufflated every two hours. Patient had ℥ ss. mag. sulph. the same evening. The temperature rose to 100·2° F. next evening, but then fell to normal, at which it remained till March 20, when it registered 101·8° in the evening. The evening temperature kept rising gradually, till on March 25 it stood at 104·6°. He then had 30 minims Warburg's tinct., and temperature fell to 98·2° F. During the next seven days the swelling slightly decreased.

On April 5 the temperature again rose to 101·2° F., and on April 9 fluctuation was detected in the neck, and an incision was made in the neck, and ℥vj. pus evacuated. Patient was much relieved. The swelling did not quite subside.

On April 13 a copious hæmorrhage from incision in neck took place. This was controlled, and the wound stuffed with iodoform gauze. The swelling now increased, and on April 15 distinct pulsation was felt over the right cheek. On examining the mouth the soft palate was greatly depressed on right side, and congested, and pulsation was easily felt.

On April 24 he had slight hæmorrhage from the mouth, and again on April 26 a copious hæmorrhage took place from the mouth, and Mr. Browne decided to ligature the carotid. This was done on April 26, and patient was easy and restful.

On April 29 he passed fæces involuntarily, but since that time he has had perfect control. He was discharged cured on May 24, and since then has reported himself weekly at the hospital.—*British Medical Journal.*

Cataphoresis in the Removal of Vital Pulps followed by Immediate Root Filling.

By S. ELDRED GILBERT, D.D.S.

My method of procedure is as follows: The rubber-dam being applied to the tooth to be operated on, the loose *débris* is removed and cotton saturated with a 25 per cent. solution of cocain is placed in the cavity; the electrode attached to the positive pole is now placed in direct contact with the cotton, where it must remain immovable till the pulp is anæsthetised. The negative pole is either held in the patient's hand, or, what is better, applied to the cheek. The electrodes must remain stationary, as there will be a shock if the current is broken (whatever instrument is used). The indicator on the volt selector is gradually turned up till it reaches twenty-five volts, where it is allowed to remain till there is no sensation, when the current is broken. In turning on the current there should be no pain; the patient is told to give an indication just as the pain point is reached; it is allowed to remain till there is no sensation, then turned up as before, and so on till the desired point is attained. Should it be turned rapidly enough to give pain, turn it back a little, when the pain will immediately cease. The pulp being anæsthetised it is now ready for removal, which will be without pain in almost every case, and with but the slightest feeling in others. When possible, removal with the broach is preferred, but in many cases this is absolutely impossible. These roots are opened by means of Gates-Glidden drills and sulphuric acid till the operation is nearly completed (neutralising with bicarbonate of soda). For finishing I prefer to use muriatic acid, then neutralise with liq. soda chlorinate. (I find Dr. Barker's acid applier, root drier, and canal filler is very handy in these cases). With a cotton-wound broach an antiseptic is introduced into the canal, following with chloro-stopping (temporary stopping dissolved in chloroform to a creamy thickness). Then finish by inserting a temporary stopping cone. This is made by rolling temporary stopping between the thumb and fingers; several of these points of various sizes are kept ready for use. The root being permanently filled, the crown is finished with temporary stopping and allowed to remain for two weeks, and then permanently filled, or, after the root canals are filled, a permanent filling may be placed in the crown at once. I have treated a great many teeth in this manner, and not one has ever given the slightest trouble. For molars the first application will allow of the removal of the pulp from the largest canal without pain, but it will be found that usually on testing the remaining roots they are sensitive. The root in which there is no sensation is treated as before described, and filled. Cotton saturated with the cocain is again placed in the cavity, the current applied, which it will be found can be increased very rapidly, and in about five minutes the remaining canals are ready to be operated on. For teeth with single canals, including time after the dam is in place, opening, filling, completing and removing of the rubber-dam averages forty-five minutes, and for molars an hour and a half. Sometimes it takes much less and sometimes a little longer. My greatest satisfaction is that I have no after-treatment, and that I can finish the tooth at one sitting, without pain, and know that there will be no trouble from soreness afterwards.—*Welch's Monthly.*

The Effect of Light on Tempered Metal.

MANY practical mechanics do not know the bad effect of sunlight and moonlight upon edge tools. Knives, drills, scythes, sickles and saws assume a blue colour if they are exposed for sometime to the light and heat of the sun and the sharp edge disappears, and the tools are rendered useless until they are re-tempered. Retail dealers and peddlers, for show purposes, expose tools for days together to the light of the sun, and a tool from a good maker in good temper, and in good condition becomes thus unserviceable. The bad condition of the tool is blamed to the maker, and attributed to bad material, or to inferior workmanship, when the fault lies entirely with the careless handling. Purchasers should be careful in selecting tools and avoid those which have been thus exposed, or which show the cast of colour which comes from such exposure. Edge tools when not in use should be kept in a cool, dark place, to have them retain good temper and condition. The mark of the best maker cannot insure against loss of condition by your carelessness in this matter. Moonlight has also a similar prejudicial effect. Cross-cut saws can be put out of shape in a single night by exposure to the moonlight, and circular saws after a term of such exposure may need re-hammering to set them right, and will lose much of their temper. This applies to the temper and grades of steel to carry edges, but mild steels are not materially affected.—*Invention.*

Six Calculi in Steno's Duct in a Child of Thirteen Years.

DR. DEUER, in *Jour. de Cliniq. et de Therap. inf.* (No. 16, p. 317, 1897) reviews this case from *La. Pres. Med. Belg.:* The child complained of slight difficulty in mastication, pain in the right jaw and intermittent swelling, principally in cold and damp weather. Symptoms began three years ago. There was no dryness of the mouth. Hard bodies were felt in the duct. The probe took the course of a dipping curve through the duct but failed to reach the stones. Incision was made along the anterior margin of the masseter, and the six concretions were removed from a pouch in the duct, weighing $\frac{1}{15}$ gr. to 2 gr. each. De Closmadeuc (in 1855), out of 132 salivary calculi, found only 11 in Steno's duct.—*Amer. Med. Surg. Bulletin*, July 25, 1897

Reviews and Notices of Books.

THE AMERICAN TEXT BOOK OF OPERATIVE DENTISTRY.

By various authors. Edited By Edward C. Kirk, D.D.S. Illustrated with 751 engravings, pp. 691. London: Henry Kimpton, 82, High Holborn, W.C. Price 25s.

THIS volume is by far the most comprehensive that has yet been published on this subject, and it should form a useful treatise, not only to the student but also the practitioner. Reviewed as a whole the book contains a very fair exposition of the methods of operative dental surgery practised at the present time, and it contains especially in the section dealing with filling much that is sound common sense. There are mistakes and omissions to be met with in its pages and certainly all the methods mentioned do not commend themselves, but in a volnme of this size and character it would be rare to find such blemishes altogether absent.

The subject matter is divided into twenty-three chapters, the list of contributors numbering fifteen. The first two chapters are devoted to the macroscopical and microscopical anatomy of the teeth. The subjects are well treated and illustrated, and are contributed by A. H. Thomson and R. R. Andrews respectively. The next three chapters are from the pen of Louis Jack. In one " The Examination of the Mouth preliminary to Operation " is dealt with and the importance of a chart record insisted on. The chart record shown (fig. 78) does not appear a good one, as insufficient space is allotted to the approximal, buccal and labial surfaces of the teeth, and in addition does not contain any diagram of the roots of the teeth, the condition of which it is often necessary to note on such a chart. The separation of teeth preparatory to filling and cleansing the teeth form the subject of the second chapter by Louis Jack (chapter iv.), the third being devoted to the preliminary preparation of cavities and is mainly occupied by the treatment of " Sensitive Dentine," and contains some excellent remarks on " Cataphoresis." Chapter vi. by S. H. Guildford, on the preparation of cavities is well illustrated and contains clear diagrams of the cavities more usually met with in practice. " The exclusion of moisture during filling " and " the comparative value of of filling materials" are discussed in chapters vii. and viii., both by Louis Jack. Some of the remarks met with in the latter chapter are worthy of more attention than they generally receive at the hands of many practitioners. In speaking of the use of gold the author remarks "The fact must also be recognised that in cases in which the character of the structure of the teeth raises a question as to the adaptability of gold, the physical and nervous resistance of the patient is generally below that which would enable him to endure the ordeal connected with the thorough completion of the work in harmony with the high standard impressed by the continued advancement which has taken place in dentistry;" and again, after referring to the value of gold as a filling on teeth with hard enamel, and solid dentine, and general health excellent, he states, "When the opposite conditions exist, gold becomes in proportion to the prominence of the unfavourable state present the most questionable material." Hardly sufficient attention has been bestowed on the physical properties of amalgam, and we fail to find any reference to Mr. Amos Kirby's and Mr. Charles Tomes' experiments in this direction. This latter investigator has found that reheated amalgam does not change its shape, but sets quickly, and he has also shown that in the setting of amalgam a type of crystallization occurs.

In chapter ix. the question of Contours is written upon by S. H. Guildford. In chapter x. The Operation of filling Cavities with Metallic Foils is dealt with, the author being Edwin T. Darby. To a certain extent the subject is treated in a disappointing manner. There is an insufficient description of simple details, and not enough stress is laid upon fundamental principles. The use of cylinders in non-cohesive gold filling is not mentioned, and the point of most importance, namely, keeping the cylinders or the folds of tape parallel, is not sufficiently emphasised. It is a vital point in the successful filling of cavities with non-cohesive gold.

Plastic Filling Materials form the subject of chapter xi., by Henry H. Burchard. The matter is well handled and the remarks on the manipulation of gutta percha excellent, but copper and palladium amalgams might, or rather should, have received fuller treatment. Chapter xii. contains a good account of Combination Fillings by D. M. Clapp, and

Inlays receive attention in the following chapter. The author, W. E. Christensen, has described the subject well; he omits, however, any mention of the Dall Method, or that excellent plan for certain cases shown and described by Howard at a recent meeting of the British Dental Association.

The Treatment of the Dental Pulp (chapter xiv.) by Louis Jack, and the Treatment and Filling of Root Canals (chapter xv.), by Henry H. Burchard, are both excellent, and the same may be said of chapter xvi., Dento-Alveolar Abscess, also by Henry H. Burchard. Pyorrhœa Alveolaris is described by C. N. Pierce (chapter xvii.) and considered under two headings—(1) Pyorrhœa alveolaris beginning at the gum margin (ptyalogenic calcic pericementitis), and (2) Pyorrhœa alveolaris of constitutional origin (gouty pericementitis). The author's views on this subject are pretty well known, having been communicated in a series of papers in the *International Dental Journal* (vols. xiii., xv., xvi.), published during the years 1892, 1894, and 1895. He then endeavoured to show that pyorrhœa alveolaris may start at the gingival margin, due to the presence of irritative deposits such as tartar, *dêbris* of food, &c., or it may start at the apex, and is in this situation due to the deposit in the pericemental membrane of uric acid and its allied salts, and always occurs in people of gouty diathesis. The suppurative condition of the gums and periosteum met with in certain other diseases, such as diabetes, malaria, &c., &c., he does not include under the term of pyorrhœa alveolaris.

In 1896 Galippe, of Paris, communicated to the *Journal des Connaissances Médicales* a note upon this presence of uric acid in cases of pyorrhœa alveolaris. His results are directly opposed to those of Pierce, for he failed to find a trace of uric acid or urates in teeth removed from patients suffering from pyorrhœa alveolaris. This paper is not even referred to by Pierce. The name of Malassez is also conspicuous by its absence. The name of Miller also occurs to us in connection with some valuable investigations into the bacteriology of pyorrhœa alveolaris. We fail, however, to find any reference to his work. To sum up, the chapter on pyorrhœa alveolaris is disappointing.

E. C. Kirk, in chapter xviii., describes the Treatment of Discoloured Teeth by the various known Methods, including that by Cataphoresis.

Chapter xix., on Extraction of Teeth, occupies nearly eighty pages, and is written by Drs. Cryer, Thomas, and Burchard. This section of the book is distinctly disappointing, and the operation of extraction has been dealt with in an unequal way. For instance, a very fair proportion of the chapter is occupied by some very beautiful illustrations descriptive of the surgical anatomy of the jaws, and the space occupied could have, with advantage, been filled by a more detailed description of the operation and its many complications. The details of the operation are scanty, and the use of Hawk's belt pattern forceps quite ignored. In a book of nearly seven hundred pages one would naturally expect to find some notes with regard to the extraction of difficult broken-down molar and also misplaced teeth, but such is not the case. Such subjects, too, as pain after extraction, forcing a tooth into the antrum, wounds of the tongue, &c., are not even dwelt upon, yet these are very important complications which anyone may encounter in practice. The section dealing with removal of the teeth under nitrous oxide is certainly not in keeping with the views on the subject held by practitioners in this country. The writer, as far as one can gather from the text, does not lay stress upon the fact that one qualified person should administer the anæsthetic and another perform the operation, all he remarks is that "a competent assistant is necessary, but only as a protection against charges which might be suggested by lascivious dreams," but also for lowering and raising the head, &c., and adds that the assistant should be a woman. *The hood face piece should never be used*, since by its use it is impossible to preclude air during administration.

The lips are also covered, and on the condition of these during anæsthesia the author lays great stress, remarking, "these are an important index during the process of anæsthesia; the colour of the blood as shown through the mucous membrane of the lips should never be lost to sight."

The inhaler recommended is shaped like a tube, which is inserted into the mouth. The mode of administering is as follows:—"The assistant places the tube in the mouth and the patient is directed to close the lips and breathe through the mouth instead of the nose, in the meantime closing the nostrils with the third finger and thumb of the left hand, the first and second pressing the upper lip about the mouthpiece, while the thumb and fingers of the right hand support the lower lip."

Plantation of teeth is treated in chapter xx., and the management of the deciduous teeth in the following one.

Chapter xxii., by Dr. Goddard, is devoted to Orthodontia exclusively as an operative procedure. An immense variety of methods are illustrated, but the principles governing the regulation of the teeth to a great extent ignored. Many of the devices shown are most intricate, and the cases used as illustrations apparently incurable without the necessity of extraction. This portion of the book would be of much more value if models of cases after treatment were in all cases shown, and one's faith in many of the devices suggested would not be perhaps of quite such a tottering character.

The last chapter of the book on The Development of Esthetic Facial Contours is interesting, well illustrated, and instructive.

PATENTS FOR INVENTIONS. Abridgements of Specifications. Class 81, Medicine, Surgery, and Dentistry. Period—A.D. 1884-88. London : Printed for Her Majesty's Stationery Office, by Darling & Son, Ltd., 1, 2, 3, & 5, Great St. Thomas Apostle, E.C. Published at the Patent Office, 25, Southampton Buildings, Chancery Lane, London, W.C., 1897. Price 1s.

To anyone interested in patents the above will be found extremely useful.

The Patent Laws of this country make no provision for an official search as regards novelty, and all patents are taken out at the risk of the inventors. It is therefore incumbent on any person desiring to obtain a valid patent for an invention either to cause a search to be made, or himself to make a search, as to the novelty of his invention.

A complete and exhaustive search through published Specifications of Patents is a task of considerable difficulty, even for the trained expert with all the resources of the Patent Office Library, for at this moment the number of printed Specifications of Patents is well over a quarter of a million.

To assist would-be patentees the Patent Office has compiled a series of Abridgments of Specifications, and these are freely distributed to the principal public libraries throughout the country. The Abridgments give a short general description of the nature of every invention patented, and the object of their publication is to enable the would-be patentee to carry out, at any rate in some cases, what may be termed a fireside search. A full copy of any Specification can be obtained at an inclusive price of 8d., through any Post Office, by a special Postcard (Patents Form C[1]). The Abridgments are published in volumes, each volume dealing with one particular class of inventions, such as "Steam Engines," and "Medicine, Surgery, and Dentistry," for a period of some years. The volumes up to 1877 are not illustrated, and all the subjects have not yet been dealt with, but from 1877 onwards a systematic series, very fully illustrated, is now in course of publication at a uniform price of one shilling per volume (including inland postage). The volumes for the periods from 1877 to 1883, and from 1884 to 1888 have been completed, those for the periods from 1889 to 1892, and from 1893 to 1896 are in active preparation, and later volumes will follow in due course. For the purposes of the Abridgments the whole field of invention has been divided into 146 "Abridgment Classes." Each volume contains abridged descriptions of the inventions falling under one of the 146 classes during the period of which it treats (illustrated by diagrams or drawings wherever possible), a detailed index to the inventions according to their subject-matter, and an index to the names of patentees or applicants.

For the use of those who desire to make a careful study of Patents, the Patent Office also publishes an "Abridgment-Class and Index Key" (price 1s., parcel postage 5d.), which shows in detail how inventions are classified, abridged, and indexed throughout its publications.

THE DENTAL SURGEON'S DAILY DIARY AND APPOINTMENT BOOK FOR 1898. London: John Bale, Sons & Danielsson, Limited, 85-89, Great Titchfield Street, W.; Claudius Ash & Sons, Limited, Broad Street, W.

MESSRS. J. BALE, SONS & DANIELSSON, LTD., send us copies of The Dental Surgeon's Daily Diary and Appointment Book. This diary has now reached its fifth year of publication, and has proved, as we anticipated, a most useful and handy appointment book for the busy practitioner. The present issue, 1898, is similar in character to that of 1897, containing a week at an opening, and a host of information of special interest to the dental world.

Obituary.

Leopold Dreschfeld.

One of the oldest dental practitioners in Manchester has passed away in the person of Mr. Leopold Dreschfeld at the age of 75. He was an elder brother of Professor Dreschfeld. Mr. Dreschfeld was Consulting Surgeon to the Victoria Dental Hospital. He had been over fifty years in practice, and had recently retired from the active duties of his profession. He was one of the founders of the Victoria Dental Hospital and of the Odontological Society, of which he was elected President in 1888. For years he was one of the Committee of the Owens College selected to represent dental studies. He was an original member of the Schiller-Anstalt and one of the originators of the Manchester Liedertafel.

The Rev. Dr. Haughton.

With great regret we announce the death of the Rev. Dr. Haughton on Sunday, October 31. In many respects he was a remarkable man, and Trinity College, Dublin, owe him a deep debt of gratitude, more especially for the manner in which he reorganised the School of Medicine and the School of Physic. As an Association, too, we cannot forget the great assistance he rendered to the meetings which have been held in Ireland. In person and as the deputy of the Provost of Trinity College, he welcomed the Association on both occasions, and in many other ways assisted the executive in rendering the gatherings successful. He was a member of the Medical Council, and according to his lights he was a good friend to us as a profession. His funeral took place on November 3, the Association being represented by our president, Dr. Theodore Stack.

Miscellanea.

General Medical Council.—Result of Election.

The result of the election of a direct representative on the General Medical Council of registered medical practitioners domiciled in England and Wales, resulted in the return of Mr. Victor Horsley, who polled 6,946 votes. His majority over Sir Walter Foster was 834. The other two candidates polled less than 300 votes between them.

General Hospital of Launceston (Tasmania).

The report of the Hospital for 1896 has been forwarded to us by a correspondent. The figures of the dental department continue to show satisfactory progress, the total number of cases treated amounting to close on one thousand. Of these a fair proportion are cases of " filling," but we regret to notice that there were no less than twenty-eight operations under chloroform, for the use of this dangerous anæsthetic is, in our opinion, hardly called for in dental practice.

Dr. Telschow's New Cement.

In our September issue we published a quotation from " Items of Interest," dealing with this cement. In Ash's *Quarterly Circular* there is a comment upon the cement by a Fellow of the Chemical Society, which we think is worthy of attention. The writer states :—" Without any desire to discourage experiment, it will be well to caution those who are not chemists of the exceedingly dangerous nature of fluoric or hydrofluoric acid. The fumes, if not in sufficient quantity to be fatal, cause dangerous and unmanageable sores, and it would be a useful lesson to see the exceeding caution with which etchers on glass use these risky compounds. Fuming nitric acid is innocence itself compared with the fluorine acids, which will rapidly eat their way through glass, stoneware, or porcelain." There is one point also in Dr. Telschow's statements which is not at all satisfactory—*i.e.*, that the new filling stands the " acids " of the mouth as well as does the living tooth substance. It will be remembered that many years ago a translucent filling was introduced, which was so perfect a copy of the living tooth enamel that a filling could not be detected without the closest scrutiny and a knowledge of its position. This was similar in composition to the one now introduced, but the risky hydrofluoric acid was not used; in its place, having similar if not identical properties, a basic tin salt formed the active ingredient. This filling also stood the action of all acids in precisely the same manner as the living tooth enamel, but it failed in alkalies, and it failed in the mouth. All basic compounds of this class, including the phosphates and chlorides of zinc, offer an extraordinary resistance to the action of acids, and all fail with caustic alkalies in precisely the same way as they do in the mouth. It is therefore evident that acid tests are misleading and worse than useless; the filling of the future must resist alkalies also if they are to be permanent. The time-worn remarks about the "acids of the mouth" will not bear examination, and if the results which may be expected in practice are to be found by experiments which can only extend over a short period, the reagent to be used is a caustic alkali. The results of tests in acids, whether mineral or organic, have no resemblance whatever to the results obtained in the mouth in the actual practice.

A Case of Bucco-Facial Actinomycosis.

A case of bucco-facial actinomycosis is reported by Ququet (*Presse Méd.*, May 12, 1897). The patient was a young man, and the infection appears to have taken place through the medium of a carious tooth, the disease at first taking the form of an alveolar abscess. Cure was obtained after some five months by internal administration of potassium iodide, and iodine injections into the fistulæ which opened on the cheek.

Case of Acute Necrosis of Alveolar Process of Superior Maxilla in a Baby Two Days after Birth.

A case of acute necrosis of the alveolar process in an infant two days old is recorded by F. C. Wood in the *British Medical Journal* for October 30. There was slight chemosis of both eyelids, which was thought to have been due to injury during birth, the labour, although normal, having been somewhat tedious. The next day, namely, the third following birth, the alveolar process of the left superior maxilla was much swollen. The day following there was extensive sloughing. The slough, along with two pieces of bone, was removed, the child progressing favourably under treatment until the twelfth day, when an erysipelatous eruption appeared on the abdomen, subsequently spreading to the genitals and nates. The baby died on the fifteenth day, apparently from sapræmia. There was no history of syphilis, struma, &c.

The Society of Anæsthetists.

The Society of Anæsthetists will hold a conversazione at 20, Hanover Square, on Thursday, November 18, commemorative of the fiftieth anniversary of the introduction of chloroform as an anæsthetic. An oration on "Empiricism or Science? Anæsthetics, 1847-1897," will be delivered at 8.30 p.m. by the President, Dr. Dudley W. Buxton. "Smoking," "Music," and "Exhibits" are other items of attraction set forth on the card of invitation.

Charing Cross Hospital Building Fund.

The Duke of Coburg is said to be interesting himself in the concert in aid of the funds of the Charing Cross Hospital, which is to take place on November 19 at the Queen's Hall. Madame Albani's services are already promised, and the *World* suggests the probability of royalty being again represented in the splendid band of the Royal Amateur Orchestral Society.

The Calendar of the Royal College of Surgeons of England.

The annual *Calendar* which has just been published by the Council of the College shows the number of Licentiates in Dental Surgery to be 1,186 (or an increase of 94 over last year).

The Board of Examiners in Dental Surgery have held two meetings for the examination of 141 candidates, 98 of whom received the licence, and 43 were referred. The fees paid by candidates amounted to £1,029, the board receiving £592 4s.

The Huxley Memorial.

A proposal by the committee of the Huxley Memorial Fund to place a statue of the late Professor Huxley in the Natural History Museum has been agreed to, subject to the trustees' approval of the statue. The full-sized model for the statue, which is being executed by Mr. Onslow Ford, R.A., will shortly be completed.

The Third French National Dental Congress.

The third French National Dental Congress was held in Paris on October 28, 29, and 30, and in consequence of the large number of members present, the character and scope of the papers and demonstrations, and the keen interest manifested by all, was a pronounced success. Dr. A. Rosenthal, of Nancy, occupied the presidential chair. A reunion of members took place on the first day, and addresses and reports were presented by the President and Secretary in the large theatre of the Faculty of Medicine. The business of the Congress was conducted on the following day at the Odonto Technical School of France, and on the Saturday at the Dental School of Paris. At the termination of the meeting, which began at 8.30 a.m. and concluded about 6.30 p.m., a banquet was held at the grand Véfour Restaurant. Papers and demonstrations were given on the following subjects:—The Treatment of Dead Teeth, Cataphoresis, Immediate Regulation of Teeth, Critical Studies on Bridge Work, Radiography, Bacteriology, the Military Services and Dentists, Anæsthesia by Dr. Dorai's method, Implantation, Stopping with Submarine Gold, Telschov's Press for Stamping Aluminium Plates, Glass Inlays, Crown and Bridge Work. We note that Mr. A. Hopewell Smith, of Boston, read a paper and gave a demonstration, entitled "Méthode simplifiée pour préparer des coupes de dents et de tissu osseux, permettant de démonter les rapports anatomiques existant entre les tissus durs, et les tissus mous."

Odonto-Chirurgical Society of Scotland.

The first General Meeting of the Session 1897-98 was held in the rooms of the Society on Thursday, November 11, the

President, Mr. Amoore, in the chair. Casual communications were brought forward, and the President delivered his inaugural address.

The Dental Hospital of London Staff and Students' Dinner.

The Annual Dinner of the staff and past and present students of the Dental Hospital of London and their friends, will be held on Saturday, December 4, at the Hotel Métropole (Whitehall Salon); Arthur S. Underwood, Esq., M.R.C.S., L.D.S.Eng., in the chair. In order that perfect arrangements may be made, it is earnestly requested that gentlemen who intend being present will send in their names at their earliest convenience, stating also if it be their intention to bring friends. Dinner at 6.30. Tickets 10s. 6d. each, inclusive of wine. Communications to be addressed to Morton Smale, Dean.

Eason's Diaries for 1898.

Messrs Eason and Sons (Limited) of Dublin have forwarded to us specimens of diaries for 1898. The "Every Hour" Diary, large size, has a full week visible at once, the hours being printed in good size figures on the left hand side of the double page, the days being ruled off in parallel columns. The diary is also indexed to every month. The "Every Hour" Diary, small size, is arranged for the month only, is indexed to each day, and has the hours printed at the sides of the pages, making a very compact and useful little book.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

The Mechanical Factor in the Eruption of the Teeth.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In your last issue there appeared a paper upon the eruption of the teeth, that was read by Mr. Whittles at the Annual Meeting. As I was not present I do not know whether the points raised therein were discussed, but I should feel obliged if you will allow me space for a few words of criticism.

Briefly stated, Mr. Whittles' theory, as far as I can gather from his paper, is that the propulsion of the tooth is due to the growth or proliferation of the cells at the base of the dentine papilla. The objection to this view I have already stated in my paper on the subject, but as Mr. Whittles has apparently overlooked it, no excuse is required for its reiteration.

The protoplasm between the erupting tooth and the base of the crypt containing it, cannot possibly exercise greater expulsive force than the blood pressure, for if it did it would cut off its own blood supply and die in consequence. Now, so far from there being any tendency to this, it is obvious that the protoplasm must be richly supplied with blood to enable the active tissue change to take place which results in the formation of the dentine.

Mr. Whittles' statement, that a *sequestrum* is brought to the surface of the body "not unlike the mode by which a tooth whose enamel cap stands in a similar relation," seems to imply that his views with regard to that pathological process are at variance with those which meet with general acceptance.

I am, sir,
Your obedient servant,
T. E. CONSTANT.

Argyll Lodge, *Scarborough*,
October 18, 1897.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

SPECIAL NOTICE.—All Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, W.

THE JOURNAL

OF THE

BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

No. 12. DECEMBER 15, 1897. VOL. XVIII.

An Object Lesson.

WE think it our duty to call the attention of every member of our Association to the report of "Dental Business," extracted from the records of the Executive Committee of the General Medical Council. The study of this report will show that the Dentists Act has narrowly escaped one of the most deadly blows it could have received—a blow which would have destroyed many years' work of the executive of our Association, and again opened the floodgates for the rush of incompetence and pretentious ignorance to swamp and sweep away the educational efforts which have raised our profession to its present level, and which, we are proud to think, has stimulated dental education throughout the whole world.

The memorial from the so-called "dental assistants" certainly exhibits a very different tone to that adopted by this class of memorialists on previous occasions when they have approached the Medical Council. The vulgar threats and the wholesale abuse poured on the Medical Council and on the members of our profession generally by the representatives of the "Association of Unqualified Dentists" have quite disappeared, and the honour of the present memorialists is now as freely pledged as was their entire disregard for such a commodity exhibited in the previous samples of literature distributed amongst us, and also to the members of the Medical Council.

We as a body have no true representation on the Council, and we make these remarks not in any spirit of exultation over what we may call the misfortune of others, but to show the Medical Council that they require some one who can take up the threads of bygone events, and also show them the momentous character, to us, of decisions which to them have but a minor importance. A great deal of unnecessary and fruitless correspondence would also be saved by the possession of information which they could receive first hand concerning all such applicants, and probably, in this instance, one at least of the memorialists might have been spared the hard fate which has overtaken them all.

The case of the gentleman who has been able to secure testimonials from several laymen and from fifteen medical practitioners is perhaps the most astonishing in its effrontery. We daresay that many of the gentlemen whose names appear on the list of "Dental Assistants" might have procured a set of testimonials of about equal value. It is the habit of some people to write freely about things of which they know but little, and medical men, if we can believe the advertisements so rife amongst us, think that they are quite capable of appraising a dentist's skill and ability, and claiming for him a consideration which he is not so likely to obtain from his colleagues generally.

We are curious to know how far such flimsy pretexts would be received as passports to the Medical Register? There are, however, in the list of testimonial givers attached to the memorial we are now considering, those whose authority as to the gentleman's dental ability is unimpeachable. They are both well known in our profession, and one of them is a member of our Representative Board. The memorial in question must have taken some time to arrange, for we all know that twenty-one testimonials, or even a like number of signatures, are not procured without the expenditure of some time, and it must have been sent in to the Medical Council at least some days before it came before the Executive Committee, yet so quietly was it all managed that its existence did not come to the knowledge of the Hon. Secretary of the British Dental Association till after the Executive Committee of the General Medical Council had decided to register all of the applicants—both the so-called assistants and the practitioners who in practising evade the law. The presentation of the memorial with so many testimonials must have been known to the member of the Representative Board in question for some time before it was sent in, and whether or no he realised the nature of the work in which he was engaged, he must have known that it was utterly repugnant to the views of his colleagues and to the welfare of the British Dental Association, and have been well aware that it would be opposed as soon as it was known. Happily he did not estimate the energy and resources of the guardians of our interests, and so he and those with whom he is associated have received a well-merited rebuff, and the integrity of our Act has been maintained; and further, the Medical Council has been saved the ignominy of being made use of by men who seem to care nothing for open dealing, or for law, or for any of the amenities which usually exist between professional colleagues so long as they can carry out their own private ends.

Undoubtedly the executive made a mistake in taking the powers delegated to it in too wide a sense. There were resolutions standing on the Council books which presented an impassable barrier to the registration of the applicant, however numerous and plausible might be his testimonials, and we presume that in administering an Act, sweeping away resolutions of the Medical Council and creating a new style or title of registration, go far beyond any delegated powers of administration ever given by any responsible body to an executive, and so we think that the Council have done wisely in directing the Registrar not to act on the resolution of the Executive.* It is an old adage that we should be just before we are generous, and although we cannot admit the justice, we recognise the generosity and sympathy shown by the Executive Committee in its ignorance of the other side of the question and of the gravity of its act. We regret to say that we cannot look with the same leniency on the conduct of every one connected with this miserable conspiracy to destroy our control over our own affairs in our own country. There is no foreigner excluded from our profession if he chooses to go through the curriculum which we exact from our own countrymen. Such conditions are imposed upon us by other countries and other Governments, and we are quite prepared to accept such conditions, but no amount of law-breaking or any number of doctorate diplomas are likely to be received here in lieu of the primary requirements. The great lesson of all this is that the Medical Council, for its own sake, should support us in our effort to get proper and efficient representation. The minor lesson is that it is well to have the executive in London.

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* The report of the proceedings of the General Medical Council, with reference to the registration of Messrs. Royce, Bush, Oldfield and others, will be found on pages 767-772, the resolution referred to being on the latter page.

Association Intelligence.

The Honorary Secretary of the Association desires to emphasise the statement he has on several occasions previously made, viz., that anonymous communications relating to cases of irregular practices, or alleged infringements of the Dentists Act, cannot receive from him that attention he would wish to bestow upon them, or they may deserve.

Southern Counties Branch.

THIS Branch held their usual Autumn Meeting at Reading on October 30. Amongst those present were Messrs. Morgan Hughes (President, Croydon); J. C. Foran (President-elect); J. W. Barton (Eastbourne); J. H. Redman (Hon. Treasurer); H. J. Kluht, E. Lloyd-Williams (London); F. H. Ellwood (Redhill); F. Bell (Tunbridge Wells); Arthur King (Guildford); H. B. Gill (Norwood); Francis Rogers (Winchester); W. H. Pilcher (Godalming); H. L. Goadby, Vernon Knowles, J. S. Acton (Reading); P. W. Greetham (Penge); J. H. Reinhardt (Brixton); John Wood, W. R. Wood, F. V. Richardson (Brighton); W. Floyd, S. Aveline, and others.

Very interesting papers were read by Mr. J. H. Reinhardt on "Buttner Crowns," and by Mr. E. Lloyd-Williams on "Some Practical Points in Vulcanite Work."

The members present afterwards dined together at the Queen's Hotel, Reading, when £2 4s. 9d. was collected for the Benevolent Fund.

The next meeting will be held at Brighton on January 22. Gentlemen willing to give demonstrations are requested to communicate with the Hon. Secretary.

1, *Sillwood Road, Brighton.* FRANK V. RICHARDSON.

Eastern Counties Branch.

THE Annual Meeting of the Eastern Counties Branch was held at Norwich on Tuesday, October 26, 1897.

A meeting of the Council was held at 10 o'clock in the Board Room of the Norfolk and Norwich Hospital, by kind permission of the Governors. The General Meeting commenced at 11 o'clock, Mr.

W. A. RHODES, the retiring President, occupying the chair. There were also present—Messrs. Bosworth Harcourt (President-elect), Fenn Cole, Coxon, Cunningham, Gillett, A. Jones, A. S. Jones, Alex. Kirby, Lennox, H. E. and T. J. Mackley, Parris, Poock, J. Spain, Savery, J. Smith Turner, Wheatley, H. F. White, R. W. White, and A. Hopewell Smith (Hon. Sec.), and, as visitors, Drs. Beverley Moorse, Master, Spowart, Williams, Muriel, Barton, Nance, Crosse, &c., and Messrs. H. Higgins and Farmer. Telegrams and letters were received from Messrs. Howkins, Hope, Husbands and Payling regretting their inability at the last moment to be present.

After the minutes had been read and confirmed,

The HON. SEC. presented his annual report, which described the past twelve months as exceedingly uneventful so far as Branch business was concerned. Two members had resigned, but three others had joined, so in point of numbers the Society was rather advancing than otherwise. The total number of members was 44. Proceeding to deal at some length to the visit paid by the Branch to Holland last year, Mr. Hopewell Smith remarked that they had been treated with great courtesy by their Dutch brethren. The trip he described as both a success and a disappointment—a success so far as its instructive nature went, but disappointing from the fact that so few Eastern Counties gentlemen attended. In conclusion, he urged upon the members to support the Benevolent Fund in connection with the Society, which had been formed to help those members of the profession who had fallen on evil times.

The report having been adopted without discussion, the HON. TREASURER announced that the Branch had a balance in hand of £14 11s. 2d., as against £8 1s. 1d. last year.

The CHAIRMAN then announced that Grantham had been selected as the meeting place for 1898, and that Mr. A. S. Jones had been chosen as President-elect.

Messrs. Cunningham, R. Payling, and A. S. Jones, the retiring members of the Council, were unanimously re-elected, and Mr. Lennox was also re-elected to represent the Branch on the Board.

Mr. R. W. WHITE read a letter he had received, suggesting that the British Dental Association should be invited to visit Norwich. Bath had been selected by that body for 1898, but he wished them to take the opportunity of inviting the parent Society for the following year. Eventually the matter was referred to the Council.

A cordial vote of thanks was, on the motion of Mr. CUNNINGHAM, seconded by Mr. BOSWORTH HARCOURT, accorded the members of the Dutch Association for their generous hospitality on the occasion of the visit of the Branch to Amsterdam and Utrecht in 1896.

Mr. RHODES, before vacating the chair, delivered a brief valedictory address. He mentioned the friendships which had been formed through the visit to Holland, and the pleasure that visit had afforded him. He warmly thanked the Hon. Secretary for the great work he had done in the service of the Branch, and concluded by wishing his successor a happy tenure of office.

Mr. BOSWORTH HARCOURT then took the chair amidst hearty and long-sustained applause. Proceeding to deliver an inaugural address, he said :—

GENTLEMEN,—It is not my intention to weary you with what is called an Inaugural Address, formulated on the well-known lines of putting some particular pet subject before you, which may or may not produce much discussion, useful or useless, these hobbies of ours, which we harness and trot out, as much, if not more, for our own delectation than that of our compulsory listeners. But I do not happen among my many "gee-gees"—and I confess to a regular stud of hobbies—to possess one of a "very" dental character. Some of these quadrupeds (if they are only four footed and not centipedean) turn towards the seductive paths of art, with the brush. Another used to rush, years gone by, behind the glare of the footlights, and a weak, bandy-legged, spavined, broken-winded specimen of the genus "hobby" occasionally tried to walk accoutred in all the dignity of "type and stick ;" but the Dental Art has, of all the stud, still been the only real working horse in the mill, where the grist is to be seen, and whose record in the stud-book is at all worth, for a moment, contemplating with any satisfaction.

Having stated this fact, you will not of course expect me to discourse on any particular dental fad, if I may assume for one moment that any dentist ever could be credited with the possession of such a commodity.

In welcoming the Eastern Counties Branch to Norwich for the second time in the history of our Association, it gives me real pleasure to preside on the occasion, and I thank you for the honour conferred enabling me to do so. I have been a very bad attendant at the meetings of our Branch of late years, but at the "Annual," in London last autumn of the parent Association I met so many faces I had not seen for so long (and the genial expression of the dentist's face is only excelled by the warmth of his welcome) that I registered a vow to be much more attentive to my obvious duties in the future—a vow which was much cracked, if not absolutely broken, by my not going to Dublin in August last ; but then Dublin is on the other side, and though I like the Irish people very much, that liking does not, unfortunately for me, extend to their Channel, which can at times behave in a most unbecoming fashion, proving that although their *whiskey* is often credited with giving an unsteadiness to the gait, their *water* can do precisely the same thing in a far less pleasant manner. Thinking of the early days of our Branch reminds me that the real initiative step was taken by a Lowestoft practitioner, our friend Mr. Stringfield, one whom I regret no longer runs with us but who worked hard as our first Hon. Secretary, and attended the meetings regularly. The first meeting was held on April 26, 1882, at the Norfolk Hotel in this city, when rules were confirmed, council elected, and the Branch fairly launched. The preceding evening the late Mr. White, at his private residence, dined Mr. Parkinson, Sir Edwin (then Mr.) Saunders, Messrs. Fenn Cole, Cunningham, Jones (sen)., R. W. White, and myself. Of course on the day of meeting there was lunch and dinner. It is astonishing how we dentists do test the quality of our molars by these luncheons and dinners ; the birth of this Branch had in its composition two of each of these meals, but far be it from me to deprecate the practice of these social functions, which I believe do a great deal to solidify the bonds of our Association. We do, as a nation, celebrate everything by a dinner. You know Douglas Jerrold said he believed " if London were burnt down next week a few survivors would meet somewhere amongst the ruins to celebrate the event by a dinner." The whole of the eight or nine Counties constituting our Branch have now been visited in turns, and we are on the second round of calls ; and every member who has been more attentive than I have to these visiting duties will emphasise my assertion that great and important changes have taken place in the last fifteen years, and that the state and status of our profession, though far from what it ought to be, and what I am confident we all wish it to be, yet has made great strides in every way in training the public to expect from every dentist nowadays those qualities of mind and education, that knowledge of the details of his art, and that *esprit de corps*, without which no profession can hope to prosper, or can at all deserve the confidence of those who resort to them for advice and assistance. We must remember that every profession around us has had to be built up brick by brick. Perfection is only gained (if ever) by constant changes, and the best thoughts of many earnest men given to it year after year weed out " this evil," transplant that " wild flower " to a more cultivated surrounding, find out better means of doing really good work, and by untiring energy—from the odd, disjointed, rough elements of a chaotic mass—produce a well-governed community of educated professional men. To this state hundreds of dentists in this country are brought solely by the formation of the British Dental Association, to whose progenitors we would ascribe all the honour we feel is due. Recollect, gentlemen, I speak with the weight of nearly forty years on my back since my door plate, bright and new, was screwed into my door, and I waited—and oh ! it was waiting too—for that rush of the general public, who, I felt sure, were only waiting for me to commence operations ; but somehow there was no great block in the roadway, no extra policemen required to regulate the traffic. Inside the house there was a surgery or operating room (then the fashion to call it), the workroom, with its equipment of board, flatting mill, sand box, draw bench, vice, instruments for the making of wire, swivels, screws, one or two tusks of sea-cow—for the days of bone dentures were not by any means ended, and that preliminary sawing of the tusk on a hot day was what could fairly be called *work*, so was the blow-pipe melting, with an oil lamp and charcoal ingots. There must be some one here besides myself who can go back to these things ; if so, he or they will agree with me that mechanical dentistry could call then upon a man for a really hard day's labour, whether in bone, plate-making, or that finger-destroying work, setting a score or so of tube teeth, or, worse still, letting natural teeth into a bone denture, upper or lower—or both. The beautiful simplicity of the plastic vulcanite was then unknown, and its first introduction, with the pudding-like boiler and the dry heat and pumice-covered bottom, proved anything but satisfactory ; but, like the beginnings and endings I have just alluded to, the first was very crude. And now something like perfection is certainly attained—I say perfection, but who can tell ? As Pope says—

> " We think our fathers fools, so wise we grow,
> Our wiser sons, no doubt, will think *us* so."

As with the means, so with the mind to govern and use those means. You, gentlemen, who are young in practice, find things to your hand your predecessors had to fashion themselves, or do without. The depôts supply everything you need ; *you* must find the brains to use them, and the records of the dental journals bear ample and constant testimony of your proficiency in every respect to do this. Again the Dental Association scores heavily in this success.

For a minute let me refer to the dissatisfaction openly expressed by members of the Association that the purgative remedies are not more largely employed by the Executive Board to cleanse the profession of such barefaced and degrading advertising as is seen around us every day by registered dentists, many of them most able and skilful men. Members say, " Look at this advertisement, sent out broadcast and capturing the unwary, enabling this or that man to acquire a fortune, or at least a competence, in as many months as we have taken years. Why does not the British Dental Association act in this or that case ? " I know nothing personal as yet of the Representative Board, but I know from repeated assertions of those who have worked with them for years, that they are only too willing to act if they are furnished with reliable and vouched-for facts, but the great difficulty is to get anyone in the locality to " bell the cat." It is never a pleasant thing for any gentleman to appear as opposing another of the same calling, and where it has been done there is a risk of the extended publicity of the offenders, and the public will at once begin the parrot cry of " professional jealousy ; " " Oh he is getting on, and therefore this persecution," and the remedy becomes worse than the disease, and the loopholes possible for unlawful practice are innumerable. Then you will say, "Whence must come the remedy?" I reply, from two sources, the dying off of the old offending parties, and the younger men joining the Dental Association after passing, as is now the law, through a regular professional training, and thereby viewing these malpractices with as distasteful an eye as any here present.

The fabled Hercules was a very strong man, but though he had other tasks, I do not think that the cleaning of those Augean stables was the lightest assigned to him. Now, the British Dental Association is not a Hercules, but it is doing its work with the best of all brooms. First, a liberal education is indispensable, regular professional training through a curriculum of severely testing power, continued intercourse and interchange of ideas and the "guinea stamp" of the proficient examiners, all bound together by that tight yet silken cord of an *esprit de corps*—a feeling born of all the others and ensuring their lasting maintenance.

Conciliation to all those *outside* our Association, and a warm desire to bring them, by all means legitimate and honorable, *inside*, is I believe the present action of all the branches, as well as the parent Society.

Referring for one minute to the operative part of our profession, it is worthy of note the vast improvements made in our instruments during the last thirty years; anyone possessing the huge heavy masses of steel our forceps were composed of then, and comparing them with the beautiful "easy-of-grasp," light, yet strong instruments of to-day, will confess to an immense improvement in this respect. And then the death of the old key has taken place in the course of these years. This jaw-breaking awful lever we can remember to have used many and many a time, and our experience is no doubt shared by others of an occasional fixture of one of those mouth-filling tongues under that powerful fulcrum—when placed against the lingual side of a molar. My key was a Ferguson and I look at it sometimes in its little silk bag with the extra claws, now as obsolete as a flint box. Chloroform was the only and not much used anæsthetic. Teeth were filled, and successfully filled for years, but little was known of the hundred and one ways now practised, of preparing those teeth to receive the filling. The pivoting of teeth was confined principally to the centrals, laterals and canines. It was called *pivoting* then. The "Boy Giles" has a different title now, in fact he is "crowned," but I readily grant and acknowledge with much pleasure the more scientific work practised nowadays in nearly every item of the surgery work, and I have been much struck by the singular beauty of contour of some of the gold fillings done by those specialists who are amongst us in the dental world. I think this specialist work itself is another stride made in the right direction. As the surgeon specialises his work into subdivisions—the ophthalmic surgeon, the aurist, &c.—so

the dentist may, with advantage I think to all, view without envy some of his fellow workers making this or that particular branch of operative dentistry his or their special study and labour. The work is circumscribed in extent, but the skilful hand will grow more skilful still on the constant employment in one groove. The tediousness of this working day after day I confess personally would very much weary me—weariness I fear that not even the accumulation of so many guineas would quite alleviate. The curriculum of the College of Surgeons—made imperative, and wisely so, upon every one aspiring to practise as a dental surgeon—is a safeguard to the public, and every year sends from the schools men qualified in every way that education and professional training can conduce to, to fill the ranks of a calling as honourable and useful as that of any amongst us. We must take heart and remember the medical profession had to pass the same course of probation, from the "cuppers" and "apothecaries," "the tooth drawers," and the "leeches" to the refined and highly cultivated body of men who form the surgeons of to-day. The surgeons of the sixteenth century were examined and approved by the Bishop of London and others before they were permitted to follow their calling, and in our fathers' days the village blacksmith (Longfellow's among the rest, no doubt), the farrier, the quack doctor of the town, or the wise man who could charm away warts or cure corns, have been very often the only "tooth drawers" resorted to by those far and near who suffered, then as now, from carious teeth.

I spoke just now of the Bishop of London "examining and approving" of the early surgeons, before being admitted to practice, but the higher order of the clergy, the bishops of every diocese, were permitted, or certainly claimed the same privilege, for in the "Eastern Counties Collectanea" we find many and curiously worded authorisations to practise by the bishops, and one, though not so funny as others, is remarkable as having been granted by Lewis Bagot, Bishop of Norwich, no longer ago than 1785—not much over a century. It runs thus :—

"Lewis, by divine permission Bishop of Norwich, to our beloved in Christ, Robert Purland, of the parish of St. James' in the City and Diocese of Norwich, greeting. Whereas we have received a sufficient and credible testimony of your knowledge and skill in the common operations of the art or faculty of surgery, such as bleeding, drawing of teeth, reducing of fraction and dislocation, and the cure of green ulcers and wounds. We do therefore, and for other just causes as thereunto moving, as far as by the statute of this realm of Great Britain we may and can, and not otherwise, or in any other manner admit, and allow you to practise and exercise the said art or faculty, in and throughout our diocese of Norwich, you having first before us taken the oath of allegiance and supremacy, according to the form, tenor and effect of an Act of Parliament of this Realm, in that behalf made and published, and also subscribe to the articles of religion, agreed upon by the Archbishops, Bishops and Clergy of both Provinces, at the Convocation holden at London in the year of our Lord 1562 [an Act, be it remembered, then over 200 years old], and confirmed by Regal authority. And we do by these presents give and grant unto you our licence for the purpose aforesaid, so long as you shall behave yourself well and commendably. In testimony whereof we have caused our Episcopal Seal (which in this behalf we use) to be hereunto affixed. Dated at Norwich, the — day of September, A.D. 1785."

The earlier extracts from this same source are very amusing, and the rival advertisements in the public journals were certainly not in accordance with the ideas of practitioners of the present day.

It appears that, contrary to our manners and customs, when, should a medical man "fall by the way" in poor circumstances, his widow is often left destitute—the widows of these earlier Esculapians would and did carry on the practice themselves.

This among many such—

"This is to give notice, the widow of the late Dr. Taylor, deceased, still continues her practice of physic, and has by the blessing of God lately cured several of the rheumatism, dropsie, scurvey, and several other diseases incident to human bodies. She has also an infallible remedy for the stone and gravel, which gives immediate relief to the patient in less than an hour after taken. She likewise bleeds and gives judgment on urin."

So you see our dental progenitors are very much of the same category as those of our "elder brothers'" ancestors, the barbers. *Re* the barber, how few of us associate the barber's pole—now getting rare, with its red and white tapings—with its meaning and original use, which was indicating the pole held in the hands of patients during the operation of bleeding, and the stripes were the bandages used for strapping the arm, and the pole was afterwards hung up outside the shop to induce others to undergo an operation supposed to cure more than half the "ills that flesh is heir to." The off and on connection of the barber-surgeons and surgeons continued, I think, till about 1745, when it was finally settled that there was no necessary connection between amputating a limb and trimming up the beard. I think anyone inclined to take a pessimistic glance at the condition of the dental profession to-day cannot but be cheered by the brilliant position won, worn and adorned by the medical world of the present century, and to feel assured that our particular branch of the healing art will endeavour by every means in its power to work hand in hand, side by side with its elder brother, keeping our art free from any of those contaminating elements which have so long disgraced the calling we follow, and which this British Dental Association was mainly fashioned and established to counteract and destroy, and by the compulsory education of the dentist, making him a fit and proper person for the discharge of all those duties falling within the legitimate sphere of the dental surgeon.

And allow me personally, and on behalf of the Branch, to thank those gentlemen who have been the governing powers of the Association, passed through its highest honours and managed its affairs for the general benefit of the profession, for attending the meetings of the Branches year after year, whether in the east, west, north or south ; and if you ask me on the present occasion what inducement our good friend, Mr. Smith Turner, had to leave the West End and come to the East at great personal inconvenience at this season of the year, I should say it was in pursuance of his constant and persistent practice of doing all he can, by his genial presence and high professional example, to bind in closer bonds all the members of the various branches to the fostering care of the parent Association. I confess to having felt the sense of a probable bereavement when our secretary informed me a week since that Mr. Turner was unable to to attend, but a great relief came when, a post or two after, I received a letter from that gentleman himself intimating the hope of his being able after all to be with us.

With these few remarks, gentlemen, I wish to thank you again for the honour you have conferred upon me in making me your President, and to trust that the Eastern Counties Branch may flourish, and that many more of those around us in these ten Eastern Counties may join our ranks and further remove those advertising blots from our escutcheon, which we feel at present do so much to tarnish it in the eyes of all professional men.

The applause which greeted the conclusion of this address having subsided, Mr. CUNNINGHAM proposed, and Mr. FENN COLE seconded, a cordial vote of thanks to the late President for the services he had rendered the Branch during the year. Mr. RHODES briefly replied.

Mr. WHITE moved a vote of thanks to the President for his interesting address. He said that knowing the ability of Mr. Harcourt in that direction they expected a great deal, but their widest expectations had been surpassed. He could truly say that never in the history of the Branch had such an address been equalled.

This concluded the business of the meeting, and the company adjourned to the operating theatre at the hospital, where Mr. HERBERT HIGGINS, M.R.C.S., L.R.C.P., gave a demonstration on "A Method of administering Nitrous Oxide Gas in combination with Ether." By this method an anæsthesia lasting from one and a-half to four minutes is obtained. Mr. Higgins was warmly thanked at the conclusion of his interesting demonstration.

At two o'clock the members and friends lunched at the Bell Hotel by the kind invitation of the President. About thirty, including several leading medical men of the city, enjoyed Mr. Harcourt's hospitality.

Assembling again in the Board Room, Mr. W. A. RHODES read a paper on " Notes on a Case of Replantation."*

A good discussion ensued.

Mr. SMITH TURNER narrated a case occurring in his own practice where a tooth remained in a satisfactory condition for twenty-five years after replantation.

Mr. HIGGINS and Mr. CUNNINGHAM spoke of the plantation of the teeth in cocks' combs.

Mr. LENNOX and Mr. JONES asked about the bite, and the method of filling the roots.

The HON. SECRETARY gave notes of a case in which successful results were produced in spite of want of antiseptics, ligatures, root canal dressings, &c.

After several other members had discussed the case, Mr. RHODES briefly replied.

In the afternoon the meeting was resumed at the Hospital.

Mr. R. P. LENNOX gave an excellent demonstration on (1) "A Method of making a Deep Counter-die, with all the Advantages, and none of the Disadvantages, of a shallow Counter;" (2) "A New Instrument for trimming Root Faces;" and (3) "New Tube Crowns for the Anterior Teeth."

Mr. A. JONES, L.D.S., showed "A Method of obtaining in one Impression a Cast of the Root Faces and Canals of five of the anterior Teeth."

Mr. A. HOPEWELL SMITH, M.R.C.S., M.R.C.P., L.D.S., exhibited some "Cases in Practice" and photo-micrographs of morbid conditions of the pulp; and Mr. G. CUNNINGHAM, M.A., L.D.S., D.D.S., introduced some of the latest phases of "Immediate Regulation of Teeth."

Mr. Husbands, L.D.S., sent an interesting specimen of calcification of the pulp.

Before the meeting dispersed, votes of thanks were given to the readers of papers, President, and Hon. Secretary.

In the short interval between the business of papers and discussions and the annual dinner, the President escorted the members round the Castle Museum, a purpose to which the old Norman stronghold is now put. The party was enabled to glance very hurriedly at the interior of the building, picture gallery, the almost unique collection of raptorial birds, the Fitch collection of antiquities, and other attractions. The massive keep was viewed with much interest by all present, as so much real Norman work is there still remaining. Other members were shown the splendid collection of calculi in the Museum of the Norfolk and Norwich Hospital.

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* Published as an Original Communication.

In the evening Mr. Bosworth Harcourt presided at the annual dinner, served in capital style in the large new banqueting hall at the Bell Hotel by Host Downe.

The usual loyal toasts having been given and duly honoured, "The British Dental Association" was proposed by the President and responded to by Mr. J. Smith Turner. Other toasts given were "The Visitors," "The Eastern Counties Branch," and "The President."

During the course of the evening some capital music was provided by the members and friends, songs with the toasts whiling away a pleasant evening until time and the singing of "Auld Lang Syne" brought a successful gathering to a close.

Scottish Branch.

A meeting was held on Saturday, November 27, at 2.45 p.m. in the Dental Hospital, Chambers Street, Edinburgh, which, by the courtesy of the Administrative Committee, was placed at the disposal of the Branch.

Amongst those present were :—Messrs. C. Rees Price (Glasgow), (President), W. Bowman Macleod (Edinburgh), J. G. Munro (Edinburgh), J. S. Durward (Edinburgh), Ernest J. Wallis (Alloa), Thos. Wilson (Glasgow), R. Lindsay (Edinburgh), G. W. Watson (Edinburgh), H. B. Ezard (Edinburgh), J. S. Amoore (Edinburgh), F. J. Turnbull (Edinburgh), D. R. Campbell (Edinburgh), A. K. Finlayson (Edinburgh), W. Graham Campbell (Dundee), P. S. Walker (Dundee), W. Taylor (Glasgow), J. D. Shepherd (Dundee), J. Morris Stewart (Edinburgh), J. Dunlop (Kilmarnock), M. MacGregor (Edinburgh), J. Stirling (Ayr), T. S. Robertson (Edinburgh), M. J. Macgregor (Edinburgh), F. Page (Edinburgh), J. Stewart (Coatbridge), J. A. Biggs (Glasgow), T. E. Johnston (St. Andrews), D. M. Marshall (Stirling), J. M. Macmillan (Glasgow), W. Fisher (Dundee), P. Cumming (Falkirk), J. Stewart (Edinburgh), W. H. Williamson (Aberdeen), D. Baillie Wilson (Edinburgh), Wm. Guy (Edinburgh), C. E. Page (Edinburgh), J. D. Logan (Edinburgh), A. H. Bain (Galashiels), &c.

At a Council Meeting held previously, Mr. Alexander H. Bain, L.D.S.Edin., 1, Bank Street, Galashiels, was elected a member of the British Dental Association under Byelaw 2 ; and on account of the protracted illness of Mr. Andrew Wilson, the Hon. Treasurer, Mr. W. B. Macleod was appointed interim Treasurer.

The following demonstrations were given with much acceptance to the onlookers.

(1) Mr. G. W. WATSON (Edinburgh) administered a combination of nitrous oxide and oxygen to two patients with very successful results.

(2) Mr. H. B. EZARD (Edinburgh) filled a crown cavity in a left lower molar with soft foil, taking no means to exclude moisture.

(3) Mr. W. TAYLOR (Glasgow) showed an artificial larynx of vulcanite and explained his method of preparing it.

(4) Mr. E. J. WALLIS (Alloa) exhibited Grundy's Hydraulic Swager, and by the aid of specimens pointed out its advantages in vulcanite work.

On the conclusion of these demonstrations, afternoon tea was provided, and the members then assembled in the Board Room to transact the usual business of an ordinary meeting, the President, Mr. REES PRICE, in the chair.

Mr. J. Douglas Logan (Edinburgh) and Mr. A. H. Bain (Galashiels), both members of the British Dental Association, were duly proposed and seconded for membership in the Branch, and the following four gentlemen were balloted for and unanimously elected members :—Mr. J. Kenneth Roy (Kirkcaldy) ; Mr. David Macfarlane Marshall (Stirling) ; Mr. T. Saunders Robertson (Edinburgh) ; Mr. Peter Gorrie (Dundee).

Mr. W. BOWMAN MACLEOD then gave the history and results of several cases of replantation, and in connection therewith showed various models and specimens ; he also brought forward a model of a lower jaw with six premolars, five fully erupted. The following gentlemen also gave their experiences in cases of replantation, Messrs. Durward, Taylor, Fisher, Amoore and Biggs.

After a vote of thanks to the demonstrators the meeting adjourned, and at 5.45 p.m. dinner was served in the West End Café, Princes Street, to thirty-five members and friends, under the chairmanship of Mr. J. A. Biggs.

The next meeting will be held in Glasgow about the end of February.

Midland Counties Branch.

THE LEEDS AND DISTRICT SECTION.

THE first General Meeting of the 1897-98 Session was held on November 16, in the Leeds Medical School. The President, Mr. GEORGE BRUNTON, took the chair, and there was a good muster of dentists residing in the district.

The proceedings commenced with the following address from the President :—

GENTLEMEN,—I have much pleasure in meeting you at the opening of the winter session of our Society. We have made a very good beginning. Your Committee is determined to carry on the meetings with vigour, as a glance at the provisional syllabus of subjects for discussion will show. These, I feel sure, will be most profitable to us all. The subjects are all practical ones, and the interchange of ideas and relation of experience will help us to overcome many of the smaller, and some of the larger difficulties we meet with in every-day practice. As our profession is now recognised as a branch of the healing art, it is fitting that we should hold our meetings here in this Medical School—a School which has produced so many eminent men, and under whose roof our Society hopes to have many pleasant and profitable meetings. If a justification of our existence as a Society were needed, I would draw attention to the vast and rapid strides made in conservative dentistry ; and as an outcome of this would point to the inquiry being made into the condition of the teeth of our school children. When I tell you that 80 per cent. of the teeth of these children are decayed, I am not overstating the facts. It is to the work and influence of such Societies as ours that we must look for any improvement in this sad condition. I need not remind you that such a high percentage of decay in children's teeth means a very great national loss, not reckoning the suffering the children have to undergo ; and it is sad to think that children have to suffer the torment which wrung from our poet Burns his well-known verses. It is more sad still to think that the greater part of all this pain is preventable, the loss of time at school, loss of sleep, loss of appetite, and all the ills that imperfect mastication bring. The Army, the Navy, and the Postal Service will not accept men who have defective teeth. Does not this fact prove that the state of the teeth is a matter affecting the general health ? Something ought to be done to arouse public attention as to what the neglect of children's teeth entails, and the responsibility brought home to those in authority on Boards of Guardians, School Boards, the various Orphanages, Homes for Children, and all who have the care and training of the young ; and to arouse parents to the importance of the inculcation of habits of cleanliness. Tooth-brush drill should be as important as dumb bells or Indian clubs.

> "'Tis worth a wise man's best of life,
> 'Tis worth a thousand years of strife,
> If thou canst lessen but by one,
> The countless ills beneath the sun."

Dentistry, as we know, is a humane profession, and one requiring much artistic perception, study of temperament, facial expression—in fact, the cultivation of all the highest and best gifts a man possesses is necessary to the successful dentist. True success does not always mean money success. As our friend Mr. J. Smith Turner says, "our aim should not be to march to the clink of the guinea." In carrying out this ideal, although much of our work is hidden, we contribute not a little to the good looks, good health, and good temper of our patients.

We all know that each patient has an individuality, and that ought to be studied rather than the portrait of his or her grandmother. It has been said that "fine art of a certain kind is most generally killed by completion," and this may be applied to the construction of artificial teeth. Patients of 60 years of age may often be seen wearing teeth which were constructed for them at 40, and the teeth are too perfect for that age—they show no sign of wear; they are perfect in number and position; they are too translucent; they lack that opacity natural to teeth at 60. I have heard of a patient, an old gentleman, who was just having his eighteenth set of artificial teeth made. He said that it was just as necessary to have new teeth made every year as new clothes; and he was right, don't you think? The foregoing and some other questions we hope to discuss during our meetings, and we hope to bring to bear the ripe experience of years of practice, the culture and the science culled from books, inventions, methods, and, as Shakespeare says, "Instruction, manners, mysteries, and trades" will all go to help rub off our irregularities, polish our dull surfaces, and make us what we would all like to be, more valuable to our patients. The advance of thought and invention is nowadays so rapid that we cannot afford to neglect any means of improvement. What, for instance, does the student who left college last year, and threw all his books in a corner and thought he had no more to learn, know about cataphoresis, or the antiseptic action of formaldehyde? We *must* keep up with the advance of the time; we owe it to our profession, to ourselves, to our patients, and to the noble band of workers who, years ago by their enthusiasm and self-sacrifice, have helped to make our profession what it is to-day.

Our profession touches so many branches of science, art, invention, manufacture, that there is no need for any of us to say we have no hobby. All the problems have not yet been solved, and many questions are waiting an answer; and it is by the ventilation and discussion of problems we meet with in our daily work that we hope to help forward and fit each other to be better practitioners of dentistry.

Casual communications were brought forward by the President, Mr. Charters Birch, and Mr. Thomas Headridge, and Mr. Alfred Cocker opened the serial programme for the session with the subject, "The Treatment of the Mouth, and the Conditions to be observed subsequent to the insertion of Artificial Teeth." An interesting discussion followed.

Metropolitan Branch.

The Annual Meeting will be held on January 27, 1898, at Limmer's Hotel, George Street, Hanover Square, W., at 6 p.m., after which there will be a dinner (at 7 p.m.), Mr. Sidney Spokes, the retiring President, being in the chair. Tickets (7s. 6d. each) may be obtained from the Hon. Secretary, 37, Queen Anne Street, W.

A meeting of this Branch was held at the National Dental Hospital on October 28.

A demonstration was given by Mr. Harry Rose on "Continuous Gum Work." He said: "The system of continuous gum work which I have the honour of demonstrating to you this evening, and which I have used in my own practice for the last six years, presents several points that make it quite different to any other existing method; to these I should like to draw your attention. First, there is the platinum plate; this, when swaged, is simply roughened on the part that the mineral compound covers, and for extra retention of the material to the plate, tags of platinum wire are soldered to it, exactly the same as if preparing a gold plate for the attachment of vulcanite. I do not even find it necessary to solder wires around or turn up the edges of the plate, but simply leave it full deep, and trim up the edge, platinum and mineral together, with a large, smooth carborundum wheel, and further smooth with water of Ayr stone; this gives one plenty of latitude to relieve the case, if necessary, and at the same time makes a very good edge. The second point is that the teeth are not soldered to the plate, their retention in their exact position being due to the unshrinkable nature of the mineral compound or body, which adheres to the teeth with such tenacity that block and teeth become one solid piece; thus the great risk of cracking the teeth during soldering is done away with. The third point is the investing in silex for the first firing; by this method there is an utter absence of risk, and the plate and teeth are so covered up and supported that it is impossible for the teeth to move or the plate to alter its shape. The second firing, that is for fusing the gum enamel, is the only one where the risk of cracking a tooth comes in; this, of course, is reduced to a minimum if proper care is taken to heat up the case gradually, and cool, either in the muffle or a warm air-tight chamber. I have heard it stated that it is impossible to make a gum case in two firings; I can only say that the last six cases for the mouth were made in two firings each."

Mr. J. H. Gartrell, of Penzance, demonstrated his continuous gum gas furnace and shot swager. The foot blower was worked under five minutes to fire the first coat of body on a full upper set, a Wolrab gold cylinder placed on the nickel tray beside the work being used to indicate the fusing point of the body. In about fifteen minutes the set was removed from the muffle and tried on the fusible metal model on which the platina plate was made. It rocked a little, due to the shrinkage of the body. The set on the model was then placed in the shot swager and a pressure put on that appeared to the spectators sufficient to crush the teeth to pieces, but the set was removed from the swager without any injury and the fit to the model restored perfectly.

The new fusible metal for the dies is an important feature in the process of shot swaging. The metal is sufficiently hard to have a No. 6 gold plate swaged upon it without injury to the rugæ or delicate points on the face of the die. Several vulcanite sets were shown with dental alloy and gold strengtheners which were swaged with shot on the fusible metal die. These strengtheners are transferred to a plaster model which is obtained in a novel and very accurate manner. After the fusible metal model is used to swage the tin trial plates and strengtheners for vulcanite work it is placed face upwards upon a sheet of glass, wet plaster is then spread over the face and sides of the die, and when set is placed in boiling water, which melts out the metal, and plaster is poured in to take its place. The metal plates swaged on the fusible metal die fit on this plaster model in a very accurate and satisfactory manner, and the strengtheners form a metal lining to the vulcanite plate next the palate and obviate the most serious objection to rubber for an upper edentulous case, as the retention of undue heat causes constant change in the process.

Mr. HERBERT BOWTELL showed specimens of old bone work from walrus and hippopotamus ivory. One specimen was a partial upper denture with four natural incisor teeth inserted in the front and retained in position by means of gold riveted posts. Another (the work of his father) represented the crowns and roots of the upper and lower teeth beautifully carved and polished from two separate pieces of ivory, the teeth being connected together only by means of the proximal and distal sides of the crowns and necks. This specimen, which was of rare artistic merit and execution, was generally admired. He also showed a platinum upper denture bearing the incisor and canine teeth, and soldered with No. 3 solder, there being little discolouration and no attempt at peeling, the plate having been previously roughened. He considered this and similar cases disprove the very prevalent idea that No. 3 was an improper solder to use with platinum dentures.

Mr. LOUIS JEFFERY showed his flasks, which are specially designed to prevent the bite being raised during vulcanising.

Mr. BOYD WALLIS showed an "Alternating Current Transformer for Cautery and Throat Lamp Work" (made by Miller & Woods). The transformer is connected to the alternating current street mains by means of a wall plug. Being mounted on a slate base it is practically fire proof. When connected up to the electric mains the terminals marked "cautery" become equivalent to those of an inexhaustible plunge battery or accumulator, except that the exact heat required is obtained by turning round the knob, as indicated by the arrow, until the burner is at the desired temperature. An induction coil may be specially wound to work from the transformer. The current received by the patient is absolutely disconnected from the street current. A forehead lamp can be lit from the upper terminals at the same time as the cautery is in use, whilst other surgical lamps can be lit from the lower terminals.

Mr. Boyd Wallis also showed a "Galvanometer with Floating Magnet" (made by Miller and Woods). The magnet floating in liquid instead of being balanced on a jewelled pivot has the great advantage of being entirely free from friction arising from wear of the pivot. The needle is sluggish in movement and dead-beat, coming to rest with little oscillating, yet at the same time is very sensitive, a current of 5 milliamperes taking it to the end of the scale; a shunt contact is provided at the side, and the readings must be multiplied by ten when this is screwed home.

Messrs. ASH & SONS and the Dental Manufacturing Company kindly exhibited some newly designed instruments, &c., including electric motors, lathes, furnaces, &c., which were of great interest.

The meeting was largely attended.

Benevolent Fund.

THE following contributions have been received since the last published list:—

Donations.

Central Counties Branch (per A. T. Hilder, *Local Representative*)	£2	5	10
Dr. A. V. Macan, 53, Merrion Square, Dublin	1	1	0
Read, L., Greenham Villa, Newbury	1	1	0
Collection at Dinner, Annual Meeting in Dublin (per J. Ackery)	3	10	6
Apperson, J. F., 19, Hamstead Road, Birmingham	2	0	0
Ackery, J., 11, Queen Anne Street, W.	5	5	0
Corbett, Dan., Sen., 12, Clare Street, Dublin	2	2	0
Mason, H. B., 3, Bedford Circus, Exeter	5	5	0
Robinson, M. Mathias, Stockton-on-Tees	0	10	0
Somerville-Woodiwis, W., 1, Tower Street, West Hartlepool	0	5	0
Midland Branch, Collection, October 23, at Doncaster (per G. G. Campion)	2	8	0
Southern Counties Branch, Collection, September 30, at Reading (per Morgan Hughes)	2	4	9

Hughes, Morgan, Eastbridge, Addiscombe Road, Croydon	£1	1	0
Bennett, F. J., 17, George Street, Hanover Square, W. ...	5	5	0
Stack, R. Theodore, 10, Westland Row, Dublin	10	10	0
Biggs, J. A., 3, Woodside Place, Glasgow	0	5	0
Vice, W. Armston, 5, Belvoir Street, Leicester	0	10	6
Elwood, W. H., 62, Pakenham Place, Belfast	2	2	0

New Annual Subscriptions.

Thomson, R. P., 199, Gt. Brunswick Street, Dublin (per G. M. P. Murray, *Local Representative*)...	0	10	0
Wilson, Thos., 4, Corunna Street, Glasgow	0	10	0
Corbett, Dan., Jun., 12, Clare Street, Dublin (additional) ...	1	0	0
Ash & Sons, Ltd., C., Broad Street, Golden Square, W. (additional)	5	5	0

Original Communications.

How we can best Assist the Association in Maintaining the Provisions of the Dentists Act.*

By THOMAS GADDES, M.D.Denver; L.D.S.Eng. and Edin.

How we can best assist the Association in maintaining the provisions of the Dentists Act is the question formulated by our worthy President, and he has requested me to answer it at this meeting. There are many ways in which assistance can be given for the specific purpose mentioned. But by concentrating attention upon one point, a keener appreciation of its signifiance is ensured than if several themes engage our thoughts. Therefore, I shall confine my observations to one subject—a problem with which the Association has practically no means of grappling.

An unregistered individual may not use the title of dentist, or imply that he is qualified to practise dentistry; yet he can exercise the calling and do any amount of injury, and still not be a law-breaker. In the vocation of dentistry at the present time the gravest evil that the public suffers is from the practice of the unregistered. Those untutored persons, by their alluring and deceptive methods, beguile the unwary and do incalculable damage to the public. It was to correct that very condition of affairs that the Act of 1878 was placed upon the Statute Book. It is well known to what an alarming extent the evil still exists. Almost every town of any size in the United Kingdom forms the hunting ground of those omnivorous parasites. Here is an example of the stereotyped coach and four being driven through an Act of Parliament. It is in this way that the spirit of the Dentists Act is violated. The provisions of the Act require amending to further circumvent the imposture of the pretender, and to meet the object of its original purpose. To secure an Act to make penal an unregistered person practising dentistry for gain is most desirable, alike for the public good and for the advancement of the profession. Anything short of that would be merely trifling with the public benefit.

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* Read at the Meeting of the Midland Counties Branch, October, 1897.

The assistance that can be given for this purpose may be internal—come from the profession,—or external—be supplied by the public, and especially by the Legislature, which is the voice of public opinion.

The amending of the Act as here indicated is, I venture to assert, the most pressing necessity in this connection ; and by the Legislature meeting the requirements adequately the greatest assistance would be given to our Association, and to other collateral forces, in carrying out the spirit and the original intention of the Dentists Act. This is one aspect of the "external" aid which can be rendered to our Association. But we must recognise that all legislative progress should also be accompanied with a correlative public feeling—a recognised and widespread public opinion conducive to such reform. It is in forming that public opinion for the need thus expressed, and likewise to influence Members of Parliament, that the "internal" help is signified. The members of the profession, individually and collectively, must be the active and quickening stimulus. They are the nucleus from which the centrifugal force must arise and emanate. Keeping the question to the front at the meetings of the several branches, and securing notices of it in the press, will pave the way for attaining the end in view. The importance of the press as a moulder of public opinion is incalculable, and every opportunity of gaining its favour and service should be embraced.

It seems to me that the time has come when we should cease to have our day-dreams of combating this flagrant evil.

To wring our hands and continue simply to read papers and talk is now little more than playing with the difficulty, and gives the critic a basis for an accusation of dilly-dally. The hour for that weak-kneed procedure has passed. There is work to do—let it be done! Two years ago, at our Hull meet-meeting, I wrote: "To secure an Act to make penal an unregistered person practising dentistry for gain would be most desirable. To in that manner fence round the practice of dentistry, or, as a parallel case, even protect the practice of medicine from the herbalist, the bone setter and the quack, would be of undoubted benefit to the public. And surely the public requires to be protected from this huge and dangerous parasite. . . . . . To obtain Parliamentary power of that kind necessitates determination, discretion, policy and finance. Let the Association—rather, I would urge, let the profession—do its utmost to secure the passing into law the Amendment which refers to the Dentists Act, and proposed to be included in the Medical Acts Amendment Bill. The desideratum is that the Amendment shall become law—whether by this channel or by that is of minor importance." To secure the amendments would unquestionably "best assist the Association in maintaining the provisions of the Dentists Act," the spirit of which is to-day most seriously violated.

The topic of finance I shall not touch, more than express my opinion that if definite and determined action were taken by the British Dental Association, assistance in that needful way would be forthcoming by an increased membership and, if necessary, by special donations.

In conclusion, if this question be considered of the importance that I now claim for it, the Association ought to make a supreme effort to check the evil, which is growing apace. If this meeting is also of that opinion, I invite the assembly to place on record its view of the matter. In so doing we members of the Midland Branch will vindicate ourselves free from the reproach that we are even yet dominated by the old lethargy which so long beset our profession. I therefore beg to move the following resolution:—

"This Branch is of opinion that Parliament should enact that it shall be illegal for an unregistered person to practise dentistry for gain. And the Branch desires its Council to consider and report upon the best means to accomplish that purpose."

Notes on a Case of Replantation.*

By W. A. RHODES, L.D.S.I.

One day in the month of April last I received a telegram urgently desiring me to see a patient the next morning, but the telegram did not say what was the matter. The patient turned out to be a young man, 19 years of age, who had been playing lawn tennis with a fellow student, who, in swinging his racket, somehow or other lost his hold on it, and it went full in the face of his companion. On making an examination of the victim's mouth I found that the two central incisors had been knocked clean out. The two lateral incisors had been so driven in, that they were inside the lower teeth as in a badly underhung bite. On asking "Where are the teeth that were knocked out?" they were produced from a waistcoat pocket. When I saw the teeth I realised that I had indeed a difficult case in hand. They were of a type very long in the crown, and with next to no root worth speaking of. I have never seen, outside a museum, central incisors with such short roots; they were merely bulbous ends, and at the most there was not more than an eighth of an inch between the termination of the enamel and the apex. At first I gave up the case as hopeless. It did not seem to me that if the teeth were replanted that they could even be sufficiently firm to be of any practical use. However, I finally decided there would be no harm in seeing what would happen if I replaced the incisors, and I set about the work. The accident happened about four o'clock in the afternoon, and it was now about half-past ten on the following morning. First, the laterals were forced forward into their normal positions. I took the usual antiseptic precautions, both with the mouth and the teeth. On extracting the pulps I found them shrivelled, but not quite dry. The roots were filled with chloro-percha, the apex in each case being sealed with a fine platinum screw smoothed off level. It was impossible to take a model of the teeth in the mouth for a splint, for the movement of them resembled more than anything else a worn-out ball and socket joint. After trying many devices I at last ligatured the teeth in place, and smeared the adjoining teeth all over with osteo and got them very fairly steady. (I have since thought that, had I such another case to tackle, I would take a model of the mouth with the teeth absent, and would model up a splint approximately, and it would then be quite easy to secure them in place.) The patient was sent away for two days. It was then possible to take a model of the mouth with the teeth *in situ*, as a good deal of the swelling and inflammation had subsided. A vulcanite splint was made and the case went on successfully from that time forth.

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* Read at the Annual Meeting of Eastern Counties Branch, held at Norwich, October 26, 1897.

I was able to see the case last Wednesday, and I found the laterals as I expected—perfectly firm. The right central is also perfectly firm, the left one not quite so much so. The colour and alignment are perfect. I asked the patient did he use them ? and he said that, although he felt no inconvenience of any kind, yet he was very careful as to how he tried the teeth. I need not say that the youth's father, who is a medical man, is delighted with the happy termination of the case, and it was in my mind when I promised to read these few notes that, as medical men in the country are usually the first to see these cases, they should be careful to inquire for the dislocated teeth, and that they should know that the lapse of a few hours, if they wish to send the case to a dentist, will not, as they might think, destroy the vitality of the peridental membrane ; indeed, Dr. Younger, in 1894, claimed that it had been entirely proved that the pericementum of extracted teeth retained persistent vitality. Eighteen hours had elapsed from the time that the accident happened, but the real difficulty in the case was the extremely small membranous surface from which to get any re-attachment. This was to me an interesting case in practice, and I hope that it is of sufficient interest to warrant my giving you these few details. I shall have an opportunity of watching the case for the next three years, as the young man has joined the University this term.

Loss of Nervous Power, resulting from a Carious Tooth.

By J. H. EDWARD, L.D.S., R.C.S.I., &c.

The vis nervosa, or power of the spinal nervous system, is not electricity in any of its known forms or modifications. I therefore venture the hypothesis, that there exists some modification or differences in the electricity (vis nervosa) of different animals. My reasons for doing so are founded on an accidental discovery I made a few years since, namely, whilst I was taking shocks from a series of powerful magnets (electro-magnetism). These shocks affected me in a very different manner from those taken from either a cylindrical or a plate electrical machine. From the latter there is experienced immediately on completing the electric circle by the hand, a transmission of the fluid through the whole range of the spinal nervous system, whilst the shocks from the magnets were only felt from the fingers to the elbow-joints. So that after repeatedly verifying the accuracy of these observations, the conclusion appeared to warrant the supposition that, however similar the phenomena of electricity and electro-magnetism, they were not exactly identical, and having reflected on the many anomalies of the nervous system, showing such marked difference in health and disease, I am disposed to think that the power (vis nervosa) of the spinal nervous system is not electricity in any of its known forms or modifications, but that this vis nervosa is something *sui generis*, and therefore cannot be regarded as identical with either electricity or galvanism, or with electro-thermo-magnetism. The reflex action of the nervous system, so ably elucidated by Marshall Hall, seems to favour such an inference, and to warrant the supposition that, whatever may be the peculiar nature or properties of the vis nervosa, it is subject to modification in different diseases, according to the proximate cause of the primary disturbing influences — by the kind of tissues or organs involved, and by the peculiar idiosyncrasy of individuals. For how otherwise can we account for so many sympathetic disturbances, as, for instance, in ordinary caries of a tooth ? The neuralgic pains may affect the ears in one person, the eyes of another, and in the third there may be violent throbbing of the arteries, with occasional intense suffering along the whole course of the maxillary branch of the fifth pair of nerves.

As an example of some remarkable disturbance from the presence of a carious tooth, and its irritation of surrounding tissues, I may cite the following case:—

A young lady was brought in a carriage to my residence to have her mouth examined. On being removed, she was supported by a lady on one side and a maid-servant on the other, and her entire muscular system seemed paralysed. Her legs trailed on the ground like useless appendages. Her arms, when raised, fell powerless immediately when unsupported, and even the muscles of the tongue were paralysed; and in her efforts to speak this important organ remained in a quiescent state. On examining the mouth I perceived a *dens sapientia* of the mandible very carious, and deeply embedded in the temporal muscle, just below the ridge of the coronoid process, in which locality there was extensive inflammation. I suggested the removal of the latter tooth, and though I had anticipated some advantage from the operation, the actual results astonished me. She instantly obtained the free motion of her tongue, which she immediately used to communicate an important fact, viz., "that ever since the time the tooth I had extracted had been making its way through the gum, she could date the gradual loss of power over her limbs, &c." I saw her about a month afterwards; she could then use her hand and arm. Since then I have not seen what further progress she has made.

In this case we had palpable proof that the phenomena could only be explained by assuming that the local irritation (shown by the great vascularity of the part) had, in the first instance, affected the maxillary branch of the fifth nerve, implicating the trunk of the nerve itself, and ultimately communicating the disturbed condition by reflex action to the spinal system. From this and similar cases I think that there must be some modification in the vis nervosa, depending on some predisposition, local or general, or from some peculiar constitutional condition, for if such were not the case, why does not every tooth similarly affected produce, in all cases, uniformly similar consequences, in obedience to the law—like causes produce like effects?

Legal Intelligence.

Action for Malpraxis.

ISHERWOOD *v.* CLEWES.

Before Mr. JUSTICE BRUCE and a Common Jury. Heard Nov. 22.

THIS was an action to recover compensation for injuries sustained, as the plaintiff alleged, in consequence of the negligence of the defendant. Mr. LANGDON appeared for the plaintiff, and the defendant was represented by Mr. C. A. RUSSELL, Q.C., and Mr. OVEREND EVANS.

Mr. LANGDON said the plaintiff, James Isherwood, was an overlooker in a mill at Bolton, and the defendant was a manufacturer of artificial teeth in the same town. He was not a registered dental practitioner, and held no qualification in that respect, and the plaintiff complained that he caused him serious injury by venturing to do that which should only have been done by a regular practitioner. The defendant drew, or attempted to draw, one of the plaintiff's teeth, and he not only extracted the tooth, but he fractured the plaintiff's upper jaw to such an extent that a piece of bone, measuring nearly half an inch square, had since the operation come away. The plaintiff, in consequence, suffered great pain, and ultimately blood-poisoning was set up. He was compelled to undergo medical treatment, and had since his return to work been unable to earn more than 18s. weekly, whereas before being operated upon by the defendant he was in receipt of 30s. a week.

The plaintiff said that on a Tuesday in March he went to the defendant, who drew one of his right front teeth from the upper jaw. Witness suffered great pain during the week, and on the following Sunday morning, about a quarter to three o'clock, he went to the defendant and asked him to take out another tooth in order to relieve the pain he was in. The defendant endeavoured to draw the tooth, and pulled till witness "felt something crack in his head." He fainted "a little," and when he came to himself he saw the defendant looking on the floor. The defendant asked him if he had swallowed the tooth, and witness replied, "No ; it is in my head yet." The defendant then took another pair of forceps, and proceeded to draw the tooth. Witness felt a "cracking" in his brain, and great pain, and said, "You are going too far." The tooth was extracted, and witness again fainted. He went home, but the pain increasing he again visited the defendant a little before six in the morning. The defendant's wife, however, would not waken the defendant, and he went to Mr. Monks, a dentist, who took out some more teeth. He afterwards suffered great pain, and underwent medical treatment. Pieces of the jaw bone came away, and he was unable to retain his employment as an overlooker. In cross-examination the plaintiff said that after the tooth was extracted he sat in the kitchen, talking with the defendant and his wife. Pieces of the bone were still coming away.

Dr. GILCHRIST and Dr. HOLTON, Bolton, and Mr. W. MONK, dentist, Bolton, gave evidence in support of the plaintiff's case.

Mr. RUSSELL, for the defendant, submitted that the history of the case, as coming from the mouth of the plaintiff himself, showed that he was suffering from inflammation and disease of the jaw bone before the defendant operated upon him.

Mr. J. CLEWES, the defendant, said he had been in practice as a dentist about eighteen years, and he had drawn on an average about 3,000 teeth every year. He remembered the plaintiff coming to him about eight o'clock on a Monday morning in March, and he then took out a left molar tooth. On the following Sunday, shortly after three o'clock in the morning, the plaintiff came and told defendant that he had come at such an unusual hour because he was "dying with pain." Witness examined his mouth, and found his gums much inflamed. He said the doctor had told him he must have some teeth out. He insisted on having a tooth out, and witness took it out. It required no particular effort to extract it, and witness noticed nothing unusual about it. No such incidents as those described by the plaintiff took place. He did not faint, and he did not complain that witness had ill-treated him. Witness did nothing to cause a fracture of the jaw.

In answer to Mr. Langdon the defendant said he was not a registered dentist, and had never so described himself. His chief business was that of making teeth. He found that the plaintiff's jaw was diseased when he came to him, and he did not want to extract the tooth, but the plaintiff insisted upon it.

Mr. WILLIAM THORBURN, Manchester, Fellow of the Royal College of Surgeons, said he had heard the evidence and had seen the pieces of bone produced. So far as the bone was concerned, he found on examination that there was no appearance of fracture of the jaw. The bone was diseased, and a diseased condition had existed undoubtedly before the early Sunday morning on which the plaintiff went to the defendant and had the tooth extracted.

Dr. J. JOHNSTONE, Bolton, and Mr. O. TIDSWELL, of the Victoria Dental Hospital, said they endorsed the view taken by Mr. Thorburn.

The jury, after a brief consultation in private, returned a verdict for the plaintiff; damages £50.

The Court then adjourned.—*The Manchester Guardian.*

Reports of Societies and other Meetings.

General Medical Council.

Monday, *November* 22, 1897.

RESTORATION OF NAMES TO THE DENTISTS' REGISTER.

THE REGISTRAR reported that—the prescribed conditions having been duly fulfilled in each case—the names of the under-mentioned persons have been restored to the Dentists' Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act (1878):—

Alexander, George.
Ayres, Edward.
Batchelor, Frederick Robert.
Hare, Arthur Frederick.
Hiam, Henry.
Spink, Harry N. B.

APPLICATIONS FOR REGISTRATION.

(*a*) The following memorial from dental assistants in regard to registration was read.

"30, Cursitor Street, Chancery Lane, W.C.
"*September* 2, 1897.

"GENTLEMEN,—We, the undersigned dental assistants, take the liberty to appeal again to your honourable Board in reference to registration.

"The history of our case is well known to your honourable Board, as we repeatedly applied, and the Executive Committee did not see fit to recommend to your honourable Board 'to pass a special order' to admit us on the Dentists' Register.

"Having misunderstood the meaning of the first part of Section 37 of the Act, we took, under Counsel's advice, action in the High Court, with the result known to your honourable Board.

"It is now a fact that we have no legal claim to be registered, but if your honourable Board will take the following facts into kind consideration, viz.:—

"(1) That our applications for registration date back as far as 1881.

"(2) That your honourable Board granted Registrations in similar cases as late as December, 1892.

"(3) That a proper interpretation of Section 37 has only been obtained through our instrumentality this year, and that even eminent Counsel were of opinion that we had a legal claim, and in consequence thereof our error is excusable.

"(4) That your honourable Board has the power, under the second part of Section 37 of the Act, to grant registration to us by framing a 'Special Order.'

"All these facts encourage us to call our claim now a moral one, and to pray to your honourable Board to take our precarious position into kind consideration, and extend the same privilege to us as your honourable Board has been kind enough to grant to others.

"We have removed every objectionable case from our present Petition, and pledge our word of honour to obey the Rules and Regulations of your honourable Board in reference to our future conduct.

"May it therefore please your honourable Board to admit us as Registered Dentists, and to authorise the Registrar to enter our names on the Dentists' Register upon payment of the usual registration fee.

"We remain, Gentlemen,
"Yours most obediently,

"A. L. BURLIN,
T. S. SPERO,
A. G. BINNS,
E. J. HORTON,
G. M. HUNT,
E. MASON,
G. M. HAYES,
G. W. MARA,
C. H. RUDD,
J. SYMONDS,
G. F. ELLIOT,
J. D. CAMERON,
M. MCSTAY,
F. M. SMALL,
H. A. HALLIWELL,
J. L. WARTSKI,
L. LEVI,
E. R. HARRIS,
A. E. HUGO,
C. P. ELIESON,
F. G. SNAREY,
L. WEINSTOCK,
A. J. WILKINSON,
P. GREENWOOD,
F. WATSWORTH,
T. HARRIS,
E. D. FRANCIS,
G. W. ELLISTON,
A. G. WARREN,
D. P. VINCENT,
J. T. CARTER,
G. A. JONES,
H. ALLWORTH,
E. S. CHEVALL,
A. K. GOLDFOOT,
CH. GOTH,
E. FOLEY,
M. HARRIS,
THOS. PARKER,
G. W. ROSE.

"*To the* PRESIDENT *and* BOARD *of the*
"GENERAL COUNCIL OF MEDICAL EDUCATION AND
"REGISTRATION OF THE UNITED KINGDOM."

(*b*) Applications for registration in the Dentists' Register from Mr. J. E. Bush and Mr. E. L. Oldfield, the consideration of which was, on May 24, 1897, postponed for the reason assigned in the following resolution:—

"That the solicitor be requested to answer Mr. Bush and Mr. Oldfield to the effect that their applications could not be considered till after the decision was made known in the appeal of Mr. Spero to the Queen's Bench."—(*Minutes*, vol. xxxiv., p. 150.)

⁂ This decision, adverse to Mr. Spero, has been since made known.

The previous correspondence in regard to the case of Mr. Bush can be found in the Minutes of the General Medical Council, vol. xxxiii., pp. 257-263, and Minutes, vol. xxxiv., pp. 148-150.

Resolved:—"That these applications falling under (*a*) be referred to the Council's legal advisers, with a view to their reporting to a future meeting of the Committee on those cases in regard to which a special order might well be made, but that the Executive Committee now make a special order that Mr. J. E. Bush and Mr. E. L. Oldfield be registered in the Dentists' Register."

(3) Application from Mr. W. E. Royce, whose case, having been referred to the solicitor, was reported on by him in May, 1896, when he was placed in a certain Class (Class III.), regarding the persons in which Mr. Muir Mackenzie stated that they had not any right to be placed on the Register, and could not be so placed without a special order.

"I, WALDO ELMORE BOYCE, of 2, Lonsdale Gardens, Tunbridge Wells, in the County of Kent, do solemnly and sincerely declare as follows:—

"That the facts stated in the application submitted by me to the General Medical Council of Education and Registration of the United Kingdom and now produced and shown to me marked 'A' are severally true.

"And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the Statutory Declarations Act 1835.

Declared at Tunbridge Wells, in
the County of Kent, this 11th
day of November, 1897, } WALDO ELMORE ROYCE.
J. H. DAISH,
A Commissioner to administer Oaths."

"*To the* GENERAL COUNCIL OF MEDICAL EDUCATION AND
"REGISTRATION OF THE UNITED KINGDOM.

"GENTLEMEN,—The object of this application is respectfully to request the General Council to make such an order, under the powers conferred on the General Council by the Dentists Act, 1878, as will enable me in the circumstances hereinafter set forth to have my name registered as a foreign dentist in the Dentists' Register, and for that purpose so far as is necessary to reconsider the decision given upon an application made by me to the General Council in 1896.

"By the 9th section of the Dentists Act, 1878, where a person who is not a British subject shows that he obtained some recognised certificate granted in a foreign country, and that he is of good character, such person is, upon payment of the registration fee, entitled without examination to be registered as a foreign dentist.

"By the 37th section of the Act it is, amongst other things, provided that it shall be lawful for the General Council by special order to dispense with such of the certificates, examinations, and other conditions for registration required under the provisions of the Act, or under any bye-laws, orders, or regulations of the Council, as to the Council may seem fit, in favour of any dental students who have commenced their professional education before the passing of the Act.

"The application of the last cited enactment to the case of an applicant for registration as a foreign Dentist is (it is submitted) that if the applicant at the date of the passing of the Act was a Dental Student who had commenced his professional education before the passing of the Act, the General Council has power by Special Order to dispense with the production by the applicant of the recognised certificate granted in a foreign country, and of such other of the conditions for registration required by the Act and the Orders and Rules of the Council as the Council thinks fit.

"The short facts on which I found my application to the General Council for such a special order in my favour are these :—In the autumn of the year 1874 I became a Dental Student in the United States, and during the first part of my course of study I studied under a dental practitioner of great experience in the United States named Dr. A. H. Ellsworth, to whom I paid a fee, and with whom I remained until September, 1876.

"In the latter month (September, 1876) I became a student at the Philadelphia Dental College, and was entered for two years' courses of education in Dentistry, the second year's course expiring in September, 1878. From that College I obtained the Degree of Doctor in Dental Surgery.

"After obtaining my degree from the Philadelphia College, I practised in the State of New York until the month of December, 1881, when I came to England as assistant to Mr. Pritchard, of 9, Grafton Street, London, W., with whom I remained until April, 1885, since which time I have practised on my own account at my present address, 2, Lonsdale Gardens, Tunbridge Wells.

"As already stated to the General Council, in my declaration made on April 28, 1896, and submitted to the General Council, it was not until the year 1893 that I was aware that it was possible for me by application to the General Council to obtain a special order which would have the effect of entitling me to be placed on the Register of Foreign Dentists. This is the reason why my application was not made at an earlier date.

"As regards my qualifications and fitness to practise dentistry and dental surgery, I would respectfully ask the attention of the Council to the fact that I have practised continuously on my own account since the year 1885, having previously gone through a course of theoretical and practical study (as student and assistant) lasting about eight years, and to the testimonials which I have already submitted, but which for convenience I again annex to this application.

"As regards my personal character, I would also refer to such testimonials.

"With reference to the question which might be asked why I have not entered myself for examination by one of the medical authorities of the United Kingdom, with the view of becoming a licentiate in dental surgery or dentistry, I have to say that I have applied to the Royal College of Surgeons in Ireland for admission to the examinations of such body, but up to the present time the said College has declined to admit me to its examinations.

"I have been informed of the Resolutions of the Executive Committee passed on the 24th of November, 1890, to the effect that the bye-laws or orders of the Council relating to persons who had commenced their professional education before the passing of the Dentists Act, and dispensing in their favour with the certificates, examinations, and other conditions for registration in the Dentists' Register, should cease to have effect on and after July 22, 1891; but I am advised and submit that this Resolution in no way precludes your honourable Council from making a Special Order in favour of an applicant for registration as a foreign dentist, if a proper case for the making of such an order is made out.

"On the above facts, which are verified by the Statutory Declaration accompanying this application, and for the reasons above set forth, I respectfully ask the General Council to make an Order dispensing with the production by me of a recognised certificate granted in a foreign country, or the production of a licence of one of the medical authorities of the United Kingdom, or the examination of any such authorities, and for the registration of my name as a foreign Dentist in the Dentists' Register.

"WALDO ELMORE ROYCE."*

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* Here follow copies of testimonials from Dr. John E. Ranking, Mr. David Salamans, and Mr. W. C. Cripps, of Tunbridge Wells, Mr. B. F. Stevens, Mr. John Pritchard, Dr. G. Cunningham, and fifteen Medical Practitioners of Tunbridge Wells.

Resolved:—"That Mr. Royce's name be placed in the Foreign List of the Dentists' Register, and that it be left to Mr. Muir Mackenzie to decide on the description of his qualification to be entered in the fourth column of the Dentists' Register."

Tuesday, November 30.

The Council sat in private for considerably over an hour. On the re-admission of the public the Chairman announced that the Council had passed a resolution directing the Registrar not to act on instructions he had already received in the matter of certain registrations in the Dentists' Register until further orders from the General Medical Council.

November 30, 1897.

Sir WILLIAM TURNER in the Chair.

DENTAL EDUCATION AND EXAMINATRON COMMITTEE.

Dr. MACALISTER: I move "that the Council go into Committee for the consideration of the recommendations of the Dental Education and Examination Committee."

Dr. LEECH: I beg to second that.

The Resolution was agreed to.

Mr. BRYANT: I am in a little difficulty about this. In looking into the matter I find this Council has never considered the additional report which was presented to it in May last, for it was referred to all the examining bodies for their criticisms upon it before this Council discussed it. So I now bring before the Council the additional report with the answers of the examining bodies, and I bring also the third and final report for their consideration. I had hoped to have been able to ask that this Council would adopt this final report of mine; but when I look down the programme and see the notice of motion by Dr. Heron Watson and Dr. MacVail, I feel that to meet their resolution I should be obliged to go into details connected with all these reports, the additional as well as the final. So it strikes me that it would be better, if the Council approve of it, to accept the additional report and the final report as read, as it is all in type before you; so that by accepting it in that way I assume that it would be reported as usual in the Journals, and that I might confine my speech simply to the point of criticism concerned in the notice of motion of Dr. Heron Watson.

Dr. MACALISTER: I think Dr. Heron Watson's motion would raise everything controversial, and Mr. Bryant could answer the points then.

The CHAIRMAN: I would point out to Mr. Bryant that in this report he has not formulated a series of specific recommendations.

Mr. BRYANT: There is not a series of specific recommendations, and I do not propose to make any. My wish was simply to ask you to adopt the final report.

The CHAIRMAN: My recollection is that the first and second parts of your report were presented in May last.

Mr. BRYANT: The additional report was presented in May last. The first report was in December, 1896.

The CHAIRMAN: The additional report was read in May.

Mr. BRYANT: Yes, but it was not considered by the Council.

The CHAIRMAN: Now you have brought up a third?

Mr. BRYANT: Yes, the third and final report after receiving the criticisms of the licensing bodies.

The CHAIRMAN: I am inclined to think that you should read the final report.

Mr. BRYANT having read the final report by the Dental Education and Examination Committee, said: The Council has never made any recommendations whatever before with respect to examinations, and in part two of my report, the recommendations with respect to the examinations, I say there "with respect to the division and order of examinations for the dental diploma, it does not appear that the General Medical Council has made any recommendations beyond the suggestion that the examination should as far as possible be of a practical character, and should include actual operations and the preparation of specimens of mechanical dentistry." With that single recommendation before us the Committee has been influenced in drawing up the present curriculum, and also the recommendations for the examination. I move "that the recommendations of the Dental Education and Examination Committee with regard to professional education be approved."

Mr. CARTER seconded the motion.

Dr. MACVAIL: I think this would be the proper time for the resolution standing in Dr. Heron Watson's name to come up:—"That this Council is of opinion that the suggestion of the Dental Education and Examination Committee, that the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, should unite in conferring a single qualification in dental surgery is not provided for in the Dental Act (Section 28 of that Act never having come into operation), and need not therefore be entertained by this Council, whose duties consist simply in administering the Act."

Mr. Bryant: I do not ask it to be accepted. There is no necessity for a motion of this kind. We make a recommendation and they say they cannot do it. We do not withdraw our recommendation; we do think it desirable, and are sorry to find they cannot do it, but if they cannot that is a sufficient answer.

The Chairman: After that explanation from Mr. Bryant does Dr. Watson think it is necessary to press his resolution?

Dr. Heron Watson: I think it is because it opens up a constitutional question with reference to what are really the duties of this Committee. Certainly I regard a good deal of what they have been good enough to recommend as no part of their duties. The object for which they were originally founded by this Council was to carry on the inspection of the examinations and to keep the Council informed of the facts that might be brought before their notice with regard to the matter. So far as I know there was no recommendation on the part of the Council that it should be part of their duty to instruct the Council as to what they should do, and it appears to me that it is no part of their duty to do so. In point of fact, the only committee who, according to the Dental Act, has any right to do so is the Executive Committee, to whom the function of removing from and replacing upon the Register has certainly been given by the Dental Act. This is really an improper form to bring up before this Council on the part of individual members of the Committee. I do not see there would be any difficulty in the Committee formulating certain definite motions which they would be ready to bring up to the Council in order that we might be able to determine whether or not this should be agreed to and sent down to the bodies. I think it is a misfortune that in a report like this there should be mixed up together both statements of fact and also recommendations partly founded upon these facts, and partly founded upon things which are not facts. For example, we are told the Irish bodies sent in a recommendation taking no notice of the matter at all. Somebody in this Council suggested to me that it reminded him of nothing so much as the story of a discussion on fox-hunting, when it was said that the men liked it, the dogs liked it, the horses liked it, but that the fox made no observation. If the Dental Committee had been good enough to place before us in a concrete form certain definite recommendations in the form of a motion, that could have been approved, and we should then have known where we were, but until now, when this matter has been brought before us, we have had no explanation of those matters; and even now Mr. Bryant does not give us such an exposition of the matter as I think would be worthy of the subject, although I admit that at this late period of the session it is extremely undesirable. I should like a ruling from the Chair to lay down the course of the committee in the future on this subject, so that we may have recommendations brought up in a proper shape.

Dr. MacAlister: May I call attention to the following resolution of the General Medical Council—"That it be remitted to the Dental Education and Examination Committee to consider if it is desirable in any way to modify the existing regulations of the Council as to the course of study and the examinations to be gone through by licentiates in dental surgery." That is dated May of last year.

Dr. Heron Watson: The remit should also have stated that a series of definite resolutions should be brought before us in a concrete form, so that we might be able to adjudicate on them, and so that they should not be diffused through several pages of print.

The Chairman: The function of the Dental Education and Examination Committee, as defined on June 5, 1895, in a motion by Sir Dyce Duckworth, seconded by Dr. Tuke, is as follows:—"The Dental Education and Examination Committee shall consider and report all matters connected with professional dental examinations, and with the inspection and visitation of those examinations."

Dr. Glover: Nothing about curriculum?

The Chairman: No, I have read to you what the function is as stated here.

Mr. Bryant: Report No. 1 is the answer to that first resolution that was passed by the Council, and that was fully considered upon the resolution which you read. Then the remit which Dr. MacAlister has read, and which I have marked here to read also, was the authority for report No. 2, the additional report. After what has fallen from Dr. Heron Watson, I must request you to allow me to read the additional report. [The second report of the Dental Committee was then read.]

Dr. MacVail: The report says, "With respect to the other recommendations of the General Medical Council the Committee have no suggestions to make in the way of alteration." Thus they approve of the most extraordinary idea that a man in a winter and a summer session will attend and get clinical instruction in medicine and surgery all in nine months.

Mr. Carter: Why not?

Mr. Teale: We are not going to make him a doctor.

Mr. Bryant: He does not require so much knowledge as an ordinary medical student.

Dr. MacVail: I should say the thing would be a complete sham; he would not learn anything. If that is all you are going to give him you had better leave it out altogether.

The Chairman: This is merely in the report. You are not asked to approve of the report. This is merely the opinion of the Committee as expressed in the report.

Mr. Bryant: With regard to the *materia medica*, I should like to say a word or two. I begin with my own College. It is eliminated from the general course of medical study, and a medical student is not required to attend a three months' course.

The Chairman: Not each medical student?

Mr. Bryant: Not each medical student. And we surely do not wish to ask of dental students more than we give to the general students. On referring to these papers as regards the syllabus with which we have been favoured from the different examining bodies, I find if I go to Edinburgh, where they so sharply find fault with our cutting out their *materia medica* in Appendix 1, the only notice I find here is in medicine, surgery, and therapeutics. Now, in the first paragraph I certainly do not see anything at all connected with therapeutics. On page 37 of the report you will find "A knowledge of neurotics, emetics, purgatives, depressants and stimulants, with examples of the septic substances used for disease and the mode of prescription." That is all of the *materia medica*. We do not believe in London it is right to make the dentists think they are justified in prescribing medicines. They are taught to write prescriptions with regard to local applications, but my own College does not wish them to write prescriptions beyond the simple prescriptions of lotions, and they are not entitled to do so. That is all the Edinburgh College seems to require from students, "a knowledge of neurotics, emetics, purgatives, depressants, and stimulants, with examples of the septic substances used for diseases and the mode of prescription." I do not know that they would require a very extended course of *materia medica* for gaining that information. The physicians and surgeons of Glasgow simply say a knowledge of therapeutics in relation to emetics and vomiting, including the modes of prescription and the medicines employed. That does not seem to be a very wide scope of *materia medica*, and the Royal College of Surgeons, Ireland, seems to eliminate it altogether. I cannot find a single note connected with the therapeutic treatment of diseases such as may fall under the eye or the hand of the dentist.

Dr. MacVail: I should like to call attention to the actual subjects laid down on page 262 by the Royal College of Surgeons, Edinburgh, and on page 272 by the Faculty of Physicians and Surgeons of Glasgow. The curriculum of the Dublin College begins on page 277, and all these subjects are really included in it—*materia medica* and therapeutics are included in the curriculum. I do not understand those little extracts which Mr. Bryant is reading—I do not know where he gets them.

Mr. Bryant: I get them from the appendices—the Royal College of Surgeons, Edinburgh, Regulations for the Examinations; on page 261, and on the top of page 267 you will read the little paragraph which I gave with regard to the knowledge of neurotics, depressants, and so on. At any rate, sir, your Committee thought very seriously about this question of the *materia medica*, and found that one of the four bodies—I always hesitate to say much about this, as representing that College—who have had more experience in dental education than any College in existence, have come to the conclusion that such a thing as asking a dental student, who is already fairly well loaded, to go through a course of materia medica, and to be expected to be fully examined upon it, was really going out of the way, and as we have no wish to make the dental student think he is justified in prescribing for local diseases or internal affections, we have no wish to encourage him in the knowledge of that branch of the profession. We find that in the clinical work and in the instruction he gets at his lectures and in his teaching of surgery, and so on, he will get enough information, quite enough to practise his profession as an able dentist. My colleagues on the Committee quite recognised the force of that argument. Also it is left open in our suggestions that *materia medica* may be given by the Colleges if they think it right, but we do not recommend it, and I cannot see that there is any objection to letting that stand. We are not saying it is an absolute requirement. Remember, these are not requirements; we have no absolute power of compelling any one of these bodies to do this, that, and the other. We can only express pleasure when they fall in with our recommendations and regret it when they do not, but we have no power to compel them to do it, and I therefore think it would be very foolish for us to attempt to draw a definite line as regards examinations or as regards curriculum, where we are certain that some of the bodies will not fall in with it. Therefore, I put it in my report, that so long as the examining bodies do not fall behind the recommendations of the Council we ought to be fairly satisfied. With respect to medicine, I have not been able to find it, certainly in my own College we have never examined in medicine. The questions that come under medicine have been treated of fully by surgery—inflammation, suppuration, and so on, all come in as definite information in their lectures on surgery and also in their special teaching of surgery and in their clinical work, and we must not forget that the representative of the profession in Ireland, the President of the College of Surgeons, called me, as representative of the College of Surgeons last time, to account for sanctioning our College asking advanced questions, and he very rightly said that they were questions which should be given for diplomas for membership in the College of Surgeons rather than for dentists. We have explained that in our report, and we have given you the answer, and that reference has gone back to my own College. I should like to say one word with regard to the suggestion which came to us from the Glasgow Faculty with respect to some kind of guidance as to the extent to which a dental student should be required to go into anatomy, physiology, medicine and surgery, and if you like include *materia medica*. At the first sight I was so satisfied that the request was a wise one that I sat down at once to form a kind of syllabus, but after I had done so I said to myself, "Are we right? Is it the function of this Council to draw anything like a syllabus for the examining bodies?" and I came to the conclusion —and my colleagues came to the conclusion also—that it was not our function; for if we are called upon to write a syllabus on *materia medica* or medicine and surgery, by the same rule we might be asked to write syllabuses or synopses of other subjects. Then we come to the question raised yesterday. We are not an educational body in that sense, and there are not, perhaps, specialists among us who can write a syllabus, say, on chemistry, *materia medica*, or other things that might be required. At any rate, in our judgment, we thought it was not for us to do it, although we do think it would be advisable for some kind of syllabus to be drawn up, and it was that which led me to put in that last paragraph in my final report where I said, "The Committee feels that it does not fall within the province of the Council to furnish anything like a complete syllabus of any part of the examination, but would suggest that it should include a general outline of anatomy and physiology and of the principles of medicine and surgery, with only such details in any of these subjects as may have a practical bearing upon the actual requirements of dentistry." To ask that a dental student should learn clinical medicine and how to diagnose surgical diseases and so on, is going beyond what is at all reasonable. Whether it is in surgery or in medicine, he must know thoroughly all the surgical affections or medical affections of the mouth, and that is given him, but to require him to learn what is learned by a general student is going too far.

The CHAIRMAN: I will now read the motion before the Council. It is moved by Mr. Bryant, and seconded by Mr. Carter: "That the recommendations of the Dental Education and Examination Committee with regard to professional education be approved." Will the Council allow me to say a word upon the matter? I have listened very carefully to all the remarks which have been made, and looked very carefully into the printed documents, and I am bound to say, as your Chairman, that I should find a very great difficulty in putting motions which would bring the various questions raised in this report and appendix to a definite issue. If the Committee would allow me to say so, I think that the Committee, as is the custom of Committees which have to report on great educational and examination questions, should have formulated a series of specific recommendations, so that we could have taken a vote, and so tested the opinion of the Council as each was put to it. And I would suggest that we are not right really to come to a formal issue upon the report at this present time. There has been put into my hands an amendment by Dr. MacAlister which he will move.

Dr. MacAlister: I beg to move as an amendment: "That it be remitted to the Dental Education and Examination Committee to draw up their recommendations in the form of a series of propositions, each dealing with a single subject, in order that the Council may be enabled next May to come to a definite decision on this subject." I have listened with great interest to what Mr. Bryant has said, and I think we have the materials for a decision, but I do not think we have the materials for taking a vote. If you look at the recommendations on page 19 you will see there is included a number of things in italics which are to be omitted, and a number of other things which are introduced and so on, and there was no clear statement as to what is to be the final outcome of the action of the Council. It would require an editor and a sub-editor to abstract what was the final decision of the Council. For example, they say: "Candidates for a diploma in dental surgery shall produce certificates (1) Of having passed a preliminary examination in general education"—we should all have voted for that—"(2) Of being not less than 21 years of age,"—not "of being 21 years of age" as at present, because that would exclude a student who was 22—and so on. At the present moment I do not know what would be the outcome of the motion now before the Committee, viz., the adoption of these recommendations as a whole. And the same is true of the next one about the examination. If you look at Appendix A., page 25, you will see if we adopted this *en bloc* we should have adopted a contradiction in terms in the first two paragraphs—dental students are to pass a preliminary examination, or if they commence their professional education before a certain date they are not to pass a preliminary examination. The next says all candidates must produce a certificate of a preliminary examination. Apprentices, apparently, might find themselves included in the second and excluded in the third. We should not send out things that require so much elimination.

Mr. George Brown: I should like to second this amendment. We have not sufficient information before us to come to a decision. It has been also stated that reports which might have been expected from the Irish College have not arrived, and I think it would be much better to postpone the whole discussion until May.

Dr. MacVail: It should be added that when the Committee have so drawn up these suggested regulations, they will send to each of the four examining bodies a copy of them at least two months before the Council meets in May, in order that these bodies may have an opportunity of making any observations they please.

The Chairman: Have you any objection, Mr. Bryant, to withdrawing your motion in favour of the amendment?

Mr. Bryant: I am in the hands of the Council. I know the weakness of that report, and I can see how much easier it would have been for the Council if we could have brought up a series of resolutions asking you to adopt them. But that is not the whole tenor or meaning of your report; there are only four examining bodies, and this is the first occasion upon which we have reviewed the old additional curriculum, and we have not revised nor discussed the question of examinations at all. We really want, and are willing to allow, a licence to the examining bodies, provided they carry out the principle—one may do it in this way and one may do it in another way. Let me suggest my coming here and proposing that the subject of *materia medica* should be eliminated from examination. My own feeling is, judging from what has passed to-day, that there would be great opposition to that, and the chances are it would not be carried. Then we are at once putting out of count altogether one of the most important examining bodies in dentistry in the country, and we are simply saying " You are not obeying our requirements or our recommendations," and we should raise up a hostile feeling against them in a minute. And the same as regards medicine. What nonsense! Excuse me using such a word, but to examine a dental student upon the practice of medicine when the little practice of medicine he has would confine it into a remarkably small area, seems to me nonsense. He is not entitled to be examined in medicine. We are leaving things as they are, and simply modifying the scheme you originally laid down according to what has been found acceptable to the four examining bodies themselves, not wishing at all to interfere with any of them, because upon the whole they carry out our requirements, and we have not asked you to alter any single one of the requirements in any important way except in *materia medica*.

The CHAIRMAN: Then you adhere to your motion?

Mr. BRYANT: I do, and I think it is the best way of dealing with it. I have considered it all before.

Sir RICHARD THORNE: If there is one thing has absolutely astounded me since I have been a member of this Council, it is the curriculum and the encouragement given by this Council to the education of mongrel doctors. I feel so very strongly upon the matter that I should have been prepared this afternoon to have taken a vote upon an amendment, which I was about to propose, with the support of Mr. Teale and several other members of this Council, to this effect: "That it be remitted to the Dental Education and Examination Committee to consider and report whether it is not possible and expedient so to restrict the curriculum for dental students as to make it less adapted to the practice of medicine and surgery, and better adapted to the practice of dentistry." When I come to look at some of these examination papers I must confess I really do not know where we are going. Here we are on the one hand doing our best to stop a series of irregular practices, and on the other hand we are supporting the education of these men in medicine and in surgery. Mr. Bryant has brought forward this report, which he has read, and the Committee have absolutely no comment as to the instruction which is to be given for a whole year in clinical medicine and surgery in hospitals where students are being educated. By the questions in these examination papers I say we are practically encouraging them to operate. The examinations are to be of a practical character for the performance of dentistry, and yet the student has to go through a course of medicine. Nine-tenths of the work is not only not adapted to his profession, but it makes him waste his time, which he ought to give to his dentistry. I do not wish to speak too strongly, but I never read anything which was likely to give rise to a greater sham, and to encourage men to do the very thing we have always said they have no business to do. Then general anatomy. What has a dentist to do with general anatomy? Why cannot he stick to the anatomy which belongs to his profession? It is doing him a direct wrong. He is wasting his time. The real crux of the whole thing is this. It is all based upon the experience of four bodies, who give these dental diplomas. I have a great deal of sympathy with them. If they really could carry all this out, they would very soon limit the number of dentists, and it would be a great pecuniary gain to them. But we have to consider the public, and the question is whether we are to educate these half doctors and turn them out in medicine and surgery, and not allow any man to go into the dental profession unless he is able to answer questions about the fœtal circulation and the umbilical cord, and where you are to operate down in the trachea, or something of that kind. I was never more aghast at anything I have seen of the work of the General Medical Council than this work which they are doing on the one hand, while on the other they are putting down irregular practices.

Dr. HERON WATSON: Dentistry is a part of the medical practice, and so long as the Government sees fit to put it under the regulation of the General Medical Council, it is quite plain that we must not limit the knowledge of a dentist to that which he absolutely requires in his profession. Our object in education is to give a man a standard upon which he may look as a standard of practice, not as a quack would do, but as a man of liberal education would do.

Dr. MACALISTER: I think my amendment is not hostile to Sir Richard Thorne at all.

Sir RICHARD THORNE: No, I will vote for it.

The amendment was then put to the Council and carried, and on being put as a substantive motion was also agreed to.

The Chairman: Is it necessary to go on with No. 4? Practically the Committee have withdrawn their suggestions.

Dr. Watson: If we are to have it brought up again, then I think we had better have the matter settled now.

The Chairman: I should like to ask Mr. Bryant, because this is a matter which has been raised in his report, whether he thinks that the suggestion made in the report as to the fusion of the two bodies, the Royal College of Surgeons, Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, for the purpose of constituting a single nomination, should be pressed.

Mr. Bryant: Certainly not; I have not the least idea of pressing it. I thought it had better remain as a record, that is all.

The Chairman: You will observe, Dr. Watson, that the paragraph in the Report says: "Under these circumstances this Committee can only express its regret that its suggestion for providing one Dental Examination Board for each division of the United Kingdom cannot at present be carried out." You see they admit that.

Dr. Watson: They do not admit that they were entirely wrong in the matter. It would be well if they remove that from the Report.

Dr. Glover: Is there anything in the Dental Acts to prevent the two bodies voluntarily combining?

The Chairman: There is.

Dr. MacVail: The point is, that the Committee refers to it as "its suggestion." The matter was up before the Faculty time and again. If the thing could have been done it would have been done. It looks as though this paragraph means that the two bodies of Scotland had never wanted to unite until Mr. Bryant's Committee drew attention to the matter. It is the idea that it is the Committee's suggestion that is the offensive part. Both the bodies had considered the matter, and found they would not unite under the present Dental Act. We have taken legal advice of the highest kind and the diploma would not be worth anything. Each body must conduct its examination independently and give its diploma. The offensive part is, that the two bodies in Scotland are lectured as if we did not know our work and wanted to remain two instead of one. We know our business as well as the Dental Committee.

Mr. Bryant: It is pleasant to find the two colleges in Scotland are seeing with the same eyes as your Committee, and I am sorry we did not know of this fact before; but it does not alter the value of our suggestion, and I do not think that it would be so offensive to the two colleges to leave the suggestion as it is now, as it would be if we withdrew the recommendation, which they themselves maintained was a good one, only it was made at a wrong time.

Dr. Heron Watson: If you will give the reasons why you drop it, it is all right. As it stands I look upon it as nothing short of an impertinence.

Dr. MacAlister: It has not been adopted. The Committee are justified in putting anything they like into it. It has gone on the minutes.

The Chairman: Do you still wish to take a vote on your resolution, Dr. Watson?

Dr. Watson: No. I thought Mr. Bryant would have at once requested permission to withdraw this because really it is of no importance.

The Chairman: Dr. MacAlister points out the difficulty is, the report containing it is already on the minutes.

Dr. Watson: In the reprints of the programme it need not reappear. The whole matter has been postponed for consideration, and I sincerely hope if in the warmth of the debate they do not see right to withdraw it now, they will do so later on.

Mr. Bryant: Yes, certainly.

The Chairman: I think that will be the better way. Mr. Bryant will again refer to it and show how the colleges themselves had thought of this amalgamation, and found they were prevented from doing so on account of its not being consonant with the Act.

Mr. Bryant: Had I been informed of this matter before it could have been introduced into the report, but all this is quite new to me. The two colleges, in answering the recommendations of our Committee, never alluded to that at all. They merely spoke of it as a recent subject. They never allowed us to believe for one moment it had been suggested before.

Dr. Watson: When the matter came up in the meeting in May, when I moved a motion which was referred again to the bodies, I gave a good reason why it was so. I told Mr.

Bryant the matter had been attempted immediately after the passing of the Dental Act by these two bodies, but they found it impossible to carry it out. I daresay my remarks may not have been of sufficient moment for Mr. Bryant to take any notice of them.

The CHAIRMAN: You know now, Mr. Bryant?

Mr. BRYANT: Yes.

The CHAIRMAN: And in bringing up the new report you will probably refer to this matter. Then I understand, Dr. Watson, you withdraw your motion.

Dr. WATSON; I will, under the circumstances.

Dr. MACALISTER: I beg to move that the Council do now resume.

The motion was agreed to.

The Committee formally reported to the Council that it had agreed to Dr. MacAlister's amendment, which became a substantive motion.

Dr. HERON WATSON: With regard to my motion standing in the programme: "That an honorarium be voted by this Council to Mr. Tomes, together with the best thanks of the Council, for the inspection he has made, under the direction of this Council, of the dental examinations of all the bodies granting dental diplomas, and for his reports upon these examinations, and upon the requirements of the curriculum in the case of each of the bodies granting a registrable diploma in dentistry, and that the Council resolves that the amount to be awarded be remitted to the Executive Committee for determination."

This matter being still further delayed in connection with these reports, I think it would be as well to delay this proposition. If it is the will of the Council I will move it. I think this motion explains itself. I think it is the least thing we can do in order to acknowledge the very generous action of Mr. Tomes, who freely gave his services without any charge or recompense at all. Now we have received from him these ample reports upon the examinations, and his review of the circumstances of educational examination, and I think we shall be glad to have an opportunity of tendering him our best thanks, and to give him also such an honorarium as the Executive Committee will determine in acknowledgment of his services.

Dr. MACVAIL seconded the motion, which was agreed to.

Odontological Society of Great Britain.

THE ordinary monthly meeting of the Odontological Society was held on November 6, Mr. W. A. HARDING (the President) presiding over a well attended meeting.

Mr. STEPHEN KEELE signed the obligation book and was admitted a member of the Society; and Mr. J. G. Turner, F.R.C.S., L.R.C.P. L.D.S.Eng., was balloted for and elected a resident member.

The CURATOR (Mr. Storer Bennett) acknowledged the receipt of a set of antique dental instruments from Mr. David Watson, and a specimen of a deciduous molar of an African elephant from Mr. Curnock.

The PRESIDENT also exhibited a deciduous molar of an elephant. The tooth had been found in excavating a garden at Shewsbury.

Mr. MUMMERY showed a gorilla's skull, lent by Dr. Leon Williams, with a fracture of the mandible which had re-united.

Mr. C. S. TOMES read notes on a case of "Partial Suppression of Teeth in a Very Hairy Monkey (*Colobus Caudatus*)" The specimen to which the notes referred is numbered 97, 3, 14, 2, in the British Museum collection at South Kensington. It consists of the skull and the skin, and the abnormality of the teeth is such that the idea was at first suggested that it might be a distinct species, in which the teeth were in a state of reduction comparable to those of Proteles.

A closer study of the teeth, however, and the absolute identity of the skin with those of other specimens negative this idea, and probably it is therefore an instance of reduction accidental in the individual, and comparable with similar examples of reduction which are occasionally met with in man.

The skull, compared with those of other males of the same species, is a trifle smaller in most dimensions, but in the maxilla and the mandible the deficiency in size is far more marked, so that it comes to have a higher facial angle than belongs to the species.

The posterior tuberosity of the upper jaw bears its normal relation to the other cranial bones, so that the shortening lies mostly in front of this point; the mandible is also shorter and weaker, whilst its width is nearly normal at the back but narrower in front, and the chin is more vertical. All the facial aspect of the skull, and especially the zygoma, malar bones, canine fossa, &c., have a porous appearance. These monkeys are remarkable for the great length of the hair all over the body, and especially for the beautiful bushy tail. As has already been mentioned, this specimen shows no abnormality in the quantity, length, or disposition of the hair; nevertheless it is especially interesting as the only recorded case in Mr. Tomes' experience of great reduction in the teeth of a monkey, and this curiously in a form which, so far as its hair goes, deviates pretty widely from other monkeys, the more so as Proteles also is distinguished by the possession of unusually abundant hair.

The teeth present are—

Right side: i. $\frac{0}{0}$ c. $\frac{1}{1}$ pm. $\frac{1}{1}$ m. $\frac{3}{3}$.
Left side: i. $\frac{0}{0}$ c. $\frac{1}{1}$ pm. $\frac{2}{2}$ m. $\frac{3}{3}$.

A full detailed description of the individual teeth was given by the author.

In reply to Mr. Baldwin, Mr. TOMES said that from the condition of the alveolus the animal certainly had had other teeth in the front of the mouth, but not at the back. Nothing was known as to its age, but appearances pointed to its attaining the usual age of such monkeys.

Mr. RUSSELL BARRETT showed and described a composite odontome which had been removed from the mandible in the region of the second molar. He expressed an opinion that the odontome was of rapid growth.

Mr. W. R. ACLAND exhibited a slight modification he had made in Mason's gag.

Mr. GEORGE THOMSON referred to the use of chloroform in dental surgery. In the discussion which ensued Dr. Hewitt, Messrs. Colyer, Davis, Maggs, Harding, Tomes, Wood and Robbins took part.

The thanks of the meeting having been tendered to the various readers and speakers the Society adjourned to January 10.

Semi-Centenary of the Introduction of Chloroform as an Anæsthetic.

THE Society of Anæsthetists celebrated this notable event in the history of anæsthesia—which occurred in November, 1847—by a Conversazione, given at 20, Hanover Square, on Thursday, November 18, for which some 1,500 invitations were issued.

The PRESIDENT, Dr. Dudley W. Buxton, having received the guests, delivered an oration entitled "Empiricism or Science? Anæsthetics, 1847-1897." He said that although the exact period when anæsthesia was established as a surgical possibility could not be very definitely fixed, the demonstration of the practical use of nitrous oxide in 1844 and that of ether in 1846 were fixed points. The horrors of pre-anæsthetic surgery told upon the strong nerves of even such men as Abernethy, Cheselden, and Liston, and appalled the sensitive nature of Simpson. His use of ether led him to seek for a more efficient substitute; this he found in chloroform. His method of employing that anæsthetic constituted the plan now commonly designated Syme's, although that surgeon distinctly repudiated any personal claim to the method. Simpson's views were based largely or entirely upon clinical observations. He taught that death from chloroform might arise from over-narcotisation of the medullary centres and from a direct action upon the heart; and in his remarks upon the deaths which he had he emphasised this, and expressed his opinion that most of the fatalities arose in this way. Snow at once investigated the action of chloroform from the physiological standpoint. His remarkable researches had been confirmed and extended by more modern experimenters. It was noteworthy that Snow, with the very inexact method at his disposal, should have produced such accurate and lasting contributions to our knowledge. Thus he showed that the introduction of given quantities of chloroform vapour in such a way that the atmosphere inhaled contained known percentages, could bring about progressive degrees of narcotism. He demonstrated that when this proportion was below 6 per cent. anæsthesia was gradually produced, and if the narcotism was allowed to invade the medullary centres respiration stopped, and subsequently the circulation came to a standstill. When, on the other hand, a proportion of from 8 to 10 per cent. was given the heart suddenly stopped even before anæsthesia had been induced. This, he explained, was due to the direct action of the chloroform upon the heart itself. Snow's research led him to believe that the method of Simpson was based upon inexact knowledge. He deprecated any method which did not allow of the exact proportioning of the chloroform in the air inhaled. To achieve this end he introduced his inhaler. One of Snow's greatest claims upon our gratitude was his careful analysis of the deaths with which he had become acquainted. He sought to show that they were capable of being classed according to particular experiments which he had made upon the lower animals, and so were explicable by causes which he knew had brought about death in these test experiments. The Commission appointed by the Royal Medical and Chirurgical Society undertook to investigate the subject. Their conclusions were, upon the whole, in accord with those of Snow, although they recommended as a half-way plan the employment of the mixture of chloroform, ether, and alcohol suggested by Harley. The name of J. T. Clover was associated with that report. The disadvantages which the Commission alleged against ether were to be completely removed by Mr. Clover's rare gifts and ingenuity. With the work of Snow was associated the late Sir B. W. Richardson. The range of Richardson's work was a wide one, but the bias of his mind tended towards the production of a perfect local anæsthesia, which would, he thought, eventually supersede general anæsthesia. The investigations of the Commission, although more exact than the preceding ones, were to be supplemented by more precise researches made with more reliable apparatus. The investigation undertaken in Glasgow at the instance of the Scientific Grants Committee of the British Medical Association was a step in this direction. They dealt with a large number of anæsthetic substances, recording their results by the graphic method. They pointed out that there was a uniform fall of blood pressure under chloroform, and they regarded this as being independent of respiratory failure. They spoke of capricious action of the heart affected by chloroform, and were unable to decide upon what this depended. Upon the whole they preferred the dichloride of ethidene as a safe midway anæsthetic between chloroform and ether. The final epoch of the fifty years' work upon chloroform was grouped about the reports of the two Hyderabad Commissions, with the second of which was associated Dr. Lauder Brunton. Thus MacWilliam in 1890 undertook a research which led him to believe that the fall of blood pressure described in the Hyderabad reports as of a protective and therefore harmless nature, since it lessened the passage of chloroform-laden blood to the nerve centres, was in point of fact due to a paralytic dilatation of all the cavities of the heart. Hare and Thornton were led to believe that the fall of blood pressure under chloroform, although possibly contributed to by cardiac dilatation, was mainly caused by vasomotor action. Gaskell and Shore were disposed to discard vasomotor action, as the cross-circulation experiments which they made appeared to show that the fall in blood pressure occurred under conditions which precluded the medullary centres from playing any part in its causation. The elaborate and careful experiments of the Hyderabad Commission were at variance with many of these findings, since in no case were examples of primary circulatory failure found in their experiments. Nearly all observers, however, had shown that chloroform was of its nature a protoplasm poison lessening or destroying functionation in muscle, and a recent research by Waller had proved also in nerve. An important communication recently made by Leonard Hill had carried the matter a step farther. If his experiments were to be accepted, chloroform, by removing the impediment to the action of gravity imposed by vasomotor action, allowed the blood to pass out of the arteries into the veins, and thus depleted alike the heart and the nervous centres. In this way was brought about failure of respiration as a secondary effect to failure of circulation. In conclusion, it was pointed out that the knowledge derived from fifty years' experimental and clinical research had rendered more exact methods of giving chloroform possible, and by forewarning the chloroformist it armed him to fight more successfully against chloroform accidents. The methods of empiricism were always fraught with danger ; those of science were potent to save.

The Dental Hospital of London Past and Present Students' Dinner.

THE annual dinner of the "Staff and Past and Present Students" of the Dental Hospital of London, took place in the Whitehall Rooms of the Hotel Métropole on the evening of Saturday, December 4. Mr. Arthur S. Underwood, M.R.C.S., L.D.S.Eng., occupied the chair, and was supported by many old friends of the Hospital and kindred institutions, and representatives of the various branches of the medical profession. Amongst those present were:—Mr. F. A. Bevan, one of the trustees of the Hospital; Professor W. Watson Cheyne; Dr. Phillips; Dr. Joseph Walker; Mr. J. Smith Turner; Mr. W. E. Harding, President of the Odontological Society; Mr. Sydney Spokes, Dean of the National Dental Hospital; Mr. William Ash; Mr. Smith Woodward, of the Natural History Museum; Mr. F. Canton; Mr. R. H. Woodhouse; Mr. David Hepburn; Mr. Storer Bennett; The Dean, &c., &c. All together the numbers amounted to nearly 150.

The toast list was not a long one, and the various speeches were interspersed with a pleasant selection of songs, recitations, and character sketches, under the direction of Mr. Herbert Schartau.

The CHAIRMAN, who received an ovation from his old fellow-students, colleagues, and pupils, proposed, after the toast of "The Queen" had been duly honoured, "The Past and Present Students." In a delightfully quaint speech, lasting some twenty minutes, he dwelt mainly on what he deemed the real subject of his toast, namely, the "health" of the students, and urged the cultivation of some rational hobby as a means of maintaining it in an efficient condition. If there were any truth in the old saying, "Early to bed and early to rise, makes a man healthy, wealthy, and wise," he felt that in two particulars at least he had done something for thirteen generations of dental students; for he had lectured at 8 o'clock in the morning on dental anatomy and physiology for thirteen consecutive summer sessions. The responsibilities of the dental practitioner were also touched upon by a reference to a statement of Voltaire's with regard to the amount of crime which was traceable to a defective state of the digestive organs, thus showing the regenerative influence on the human race which the conscientious dental surgeon was capable of effecting by skilful and wise treatment of the organs of mastication.

This toast was responded to on behalf of the past students by Mr. FRANK C. PORTER, of Nottingham, a former house surgeon. Mr. Porter made many happy allusions to his *Alma Mater*, and the links that bound pupils and teachers together.

Dr. MILLER, the Saunders' scholar of the year, represented the present students, and his witty and humorous remarks elicited many a hearty laugh. With regard to the Voltairian theory quoted by the chairman, he said it would be interesting to investigate the condition of the mouths of some of our leading modern criminals, to ascertain if they were or were not edentulous.

The toast of "The Hospital and School" was proposed by Professor WATSON CHEYNE, of King's College Hospital. Mr. F. A. BEVAN, who was enthusiastically received, in a hearty and encouraging speech on behalf of the hospital assured his hearers that the difficulties which stood in the way of the proposed new hospital were rapidly and surely disappearing, and that when the great end was accomplished the Dental Hospital of London would, as it ought to be, stand the finest hospital of its kind in the world. He also stated that for his part he thoroughly believed in the institution and would support it to the end.

Mr. MATHESON gracefully and ably replied for the School.

The toast of "The Visitors" was proposed by Mr. STORER BENNETT and was responded to by Mr. SMITH WOODWARD, who paid a compliment to the Odontogical Society and the scientific work which was accomplished generally by the dental profession.

Mr. CHAS. S. TOMES, in proposing the health of the Chairman, spoke to the excellent scientific work which Mr. Underwood had accomplished. He also pleasantly referred to the Box and Cox-like arrangements in which he and the Chairman found themselves, Mr. Underwood having succeeded him in the lectureship on Dental Anatomy and Physiology, and now on Mr. Underwood's retirement he once more found himself occupying the post.

This toast was drunk with musical honours, and the CHAIRMAN having expressed his thanks and his pleasure at seeing such a goodly gathering of representatives of the profession hailing from all parts of the kingdom, a most successful and enjoyable evening was brought to a close.

BRITISH MEDICAL ASSOCIATION.—The next annual meeting of the British Medical Association will be held in Edinburgh, commencing Tuesday, July 26, 1898. As already announced, Sir Thomas Grainger Stewart will be the President of the year, and his connection with the Edinburgh University has enabled the Association to obtain the use of the medical school class-rooms for the sectional meetings. The general meeting will, it is expected, be held in the new McEwan Hall, which was opened by Mr. A. J. Balfour recently, and which accommodates between 3,000 and 4,000 people.

Abstracts and Translations.

The Photography of Teeth with Röntgen Rays.

By Dr. SCHAEFFER-STUCKERT, Frankfurt-on-Maine.

(Translated from the *Deutsche Monatschrift für Zahnheilkunde.*)

In the field of dental science, the discovery of Röntgen's photography has received as yet little attention, and it is, perhaps, therefore not uninteresting if in this paper the question is dealt with : "In what respect may dental science expect advantage from Röntgen's discovery ?"

The published matter relating to this subject in dental literature is still of small dimensions. The first paper which I saw appeared in the June number of the *Dental Cosmos*, 1896. Morton's paper, the "X-ray and its Application in Dentistry," only affords us, however, a general perspective regarding the possible results which we are likely to obtain with the X-rays, while his principal photograph, which at the first moment astonishes one by its completeness, is taken from a skull and not from the living subject. The first photographs of teeth in Germany were taken in the beginning of February, 1896, by Professor König in the Physikalishen Verein, in Frankfurt-on-Maine.

The Röntgen photography, as is well known, is the production of a shadow-picture upon the sensitive plate.

The more exactly the object, which is impenetrable to the X-rays, and which, therefore, throws shadows upon the plate, lies upon the latter, the more exactly will the shadow-picture resemble it. For this reason we obtain from the bones of the hand such an excellent, almost anatomically exact representation. A more or less easily penetrable layer (muscles, skin, &c.), between the plate and the bone to be photographed only slightly lessens the distinctness if sufficient time for exposure is given, but a dense layer of bone offers an impediment to the production of exact pictures. The skull, therefore, is the most difficult field for Röntgen photography, and I may as well state in advance that up to the present no one has succeeded by photographing the whole skull in obtaining a differentiated reproduction of the conditions in the jawbones. The only method available was to fix the sensitive plate in the interior of the mouth and to allow the X-rays to act upon the plate from without. In this work the upper jaw causes greater difficulties than the lower. In the lower jaw the soft tissues give way to the plate to such an extent that the latter can be placed close against the teeth and bones, nearly parallel to the body of the lower jaw ; in the upper jaw, however, we find behind the teeth and roots a dense mass of bone, which does not permit the placing of the plate parallel to the position of the teeth. While with high palates only a slightly deviating position of the plate from the parallel line to the roots of the teeth is possible, we are obliged in shallow jaws to let the plate stand off at angles of 45 degrees and more, so that with very shallow jaws the possibility of obtaining a successful photograph must be doubted altogether. The films which are on the market possess great pliability. Small cut pieces of such films were put in envelopes, prepared beforehand, made of paper impenetrable to light, and wrapped round with a layer of guttapercha.

As regards the apparatus employed, I am indebted to Professor König for the following information sent me for this paper.

For photographing by the Röntgen process an apparatus is needed consisting of three essential parts :

(1) Of the highly rarefied tube in which the Röntgen rays are produced by the passage of powerful induction currents.

(2) Of the induction coil, in whose secondary current circuit the tube is inserted.

(3) Of the battery which works the induction coil by supplying the primary current.

For the induction coil a spark inductor having a spark length of 15-20 cm. suffices for the source of the current with an accumulator battery of 8-10 elements. The photographs reproduced in the plate were made, it is true, with a decidedly larger induction coil, but for the tube employed a smaller induction coil would have been sufficient. The result is essentially dependent upon the perfection of the tube used.

The point of exit of the X-rays Röntgen found to be those places on the wall of the discharge tube which were met by the cathode rays—effects arising from the negative electrode—the cathode. During the repetition of the Röntgen experiments in the Physikalische Verein at Frankfurt-on-Maine, it was found that tubes in which the cathode rays do not fall upon the glass wall, but upon a platina plate fixed in the tube, produce very powerful Röntgen effects, whose point of exit is the spot on the platina plate[1] met by the cathode rays. This mode of producing powerful Röntgen rays has been adopted in all the tubes which have been brought in the market.

As may be seen from the drawing, the form of the tube generally is spherical, and the electrodes enter this sphere at two places opposite to each other (E and E_1).

These are mostly in the form of a concave mirror ; between them, in the centre of the glass ball, there is a little piece of platina (K), which at an angle of 45° is inclined towards the connecting line of the two electrodes. Further, in these tubes, as is indicated by the stroked line in the illustration, a wire leads from the platina plate through the wall of the tube to the exterior, and terminates in an eye which is on the wooden foot of the tube; this eye is again connected with an electrode. Now, if one excites the tube with the aid of a powerful induction current, and the current is passed through in such a manner that it enters at the electrode connected with the platina plate and passes out at the electrode lying opposite, Röntgen rays (R) are seen to pass in all directions at the side of the platina plate facing the last-named electrode.

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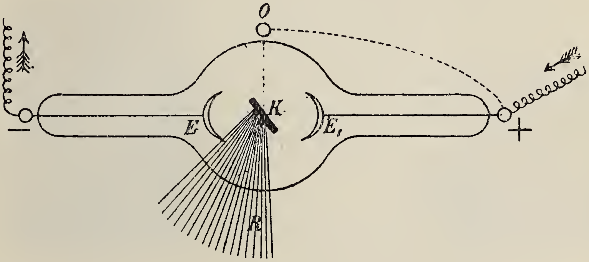
[1] Already at the sittings of the physical section of the 68th meeting of German Naturalists and Doctors in Frankfurt, this platina plate was generally described as "König's plate" because he suggested it. *Sch.-St.*

When the photographs were taken the side of the platina plate from which the rays proceed was placed directly opposite to the mouth at a distance of 15-20 cm. The side mentioned may be recognised by this, that the part of the tube in front of it displays an intense green light.



Drawing of a tube made by the "Allgemeine Electricitäts-Gesellschaft."

The head of the patient was well fixed, and I myself held the film close to the teeth and palate by putting the two forefingers of both hands in the mouth.

I believe to this method I owe a part of my success, for neither with an apparatus nor by the patient himself can the film be pressed so closely to the palate as by the fingers of a second person. Only care must be taken that the remaining fingers are kept out of the area of the X-rays, and do not cast shadows upon the plate. Of course, the person holding the film must remain as immovable as the patient whose mouth is being photographed. The period for exposure in all cases was five minutes, a short time in comparison to the time required for the first Röntgen photographs. The film is then developed in the dark chamber like every photographic plate.

With this development, in contradistinction to the development of ordinary photographs, a negative is produced which has the reverse appearance of an ordinary photographic negative. The teeth are white upon the Röntgen negative, the bone-substance is to be recognised by the light and dark lines just as they would be given in any drawing, and the interstices between the crown of the teeth are black.

The Röntgen negative, therefore, gives us a picture corresponding to the reality, and we therefore do not need the usual process, the copying of the sensitive plate, in this case, for the print, which is procured from the film, presents us a picture the opposite in appearance to the real conditions.

The analogy of the Röntgen negative with the reality, as also the circumstance that in these photographs of teeth the slightest alterations may produce misinterpretations, has induced me to dispense with positives and to reproduce the negatives.

Passing on to the description of the separate illustrations, figs. 1, 2, and 3 are from the mouth of Fraulein B., about 16 years of age. In this patient the two permanent central incisors in the upper jaw were present, while the remaining front teeth were milk-teeth. The Röntgen photograph, produced in fig. 2, is from the left side of the mouth, and shows a milk molar with the crown of a permanent tooth. In fig. 3, the film of which was laid in the right side of the patient's mouth, a distinct differentiation is seen of the erupted permanent tooth from the milk-tooth still standing in the mouth. Furthermore, we see in this picture the root-canals of the permanent teeth, the bone substance as if composed of lines, and the crown of the retained permanent tooth lying over the milk-tooth.

Fig. 1 of the plate shows a photograph from the same patient, in which the film was placed behind the entire front of the teeth, and the X-rays were directed to the centre. The result thus obtained is a very favourable one. In the middle of the picture are to be recognised the two permanent central incisors with their roots, at the two sides of these two milk incisors, and further two milk canines, although the latter cannot be exactly distinguished. The bone substance here again may be known by its lined appearance, and in the region of the roots of the teeth standing in the mouth four crowns of teeth can be clearly recognised. These are the crowns of the four retained permanent teeth ranged in an irregular position.

Figs. 4 and 5 of the plate are photographs from the mouth of Fraulein S., about 20 years of age. This young lady had two persistent milk-teeth. In fig. 5 of the plate the permanent teeth and the milk canine are to be recognised through the different penetrative power of the X-rays, while the retained canine is to be seen only as a white shimmer above the milk-tooth. In fig. 4 of the plate the retained tooth can be clearly distinguished. The picture gives, however, an elongated view of the teeth standing in the mouth.

Fig. 6 of the plate is a photograph of the right side of the upper jaw of Fräulein W., a lady about 21 years old. In this patient the milk canine tooth was still present beside the lateral incisor. The Röntgen negative shows the retained canine above the small space between incisor and canine. In addition, in this photograph, there is to be seen a filling in the permanent central incisor.

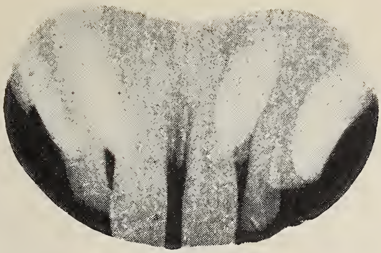


FIG. 1.

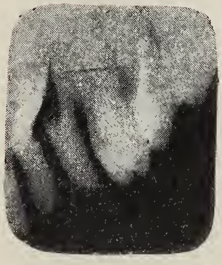


FIG. 2.

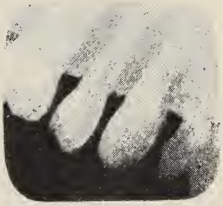


FIG 3.

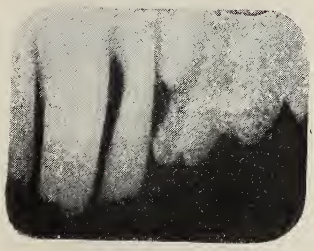


FIG. 4.

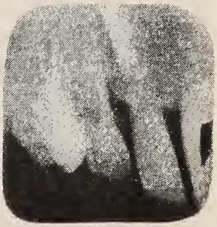


FIG. 5.

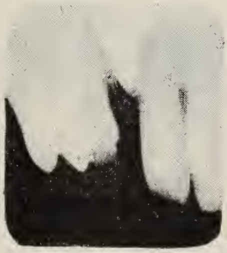


FIG. 6.

The negatives secured certainly encourage one to further work, and permit us the confident hope that with the help of the X-rays more progress will be made in dentistry. That we can solve other questions besides the fixing of the position of retained teeth is proved by fig. 3 of the plate with the interesting reproduction of the root canals. It could doubtless be established at once if foreign bodies were in them, while finer detail work would enable us to recognise denticles. Of further interest are photographs where we have difficult eruption of wisdom teeth, in replanted teeth, tumours and many cases when a view into the jaw is desired. With the rapid development which obtains with all electrical apparatus further improvements of the tubes may be expected, investigation will probe the, in many respects, unexplained action of the X-rays, and it will be the task of medicine and of dental science to find new applications for these achievements. May the photographing of teeth with Röntgen rays lead us to further satisfactory results.

Obituary.

Dr. Thomas Evans.

We regret to announce the death of Dr. Thomas Evans, Paris, on November 14. Dr. Evans, who was an American, prided himself upon having looked after the teeth of more crowned heads than any other man in his profession. He was a *persona grata* at the Court of Napoleon III., and it was in his house that the ex-Empress Eugénie concealed herself after making her escape from the Tuilleries. He further escorted her to the coast, and was instrumental in enabling her to effect her escape in an English yacht. He added nothing to the literature of our profession, and does not leave behind any scientific work by which his name will be remembered in years to come.

Reviews and Notices of Books.

CHEMISTRY FOR PHOTOGRAPHERS. By C. F. Townsend. London: Dawbarn & Ward, Limited, 1s. net.

This little book will be found of much value to the practical photographer. It deals with the chemistry of silver salts, and of the photographic image, developers, reversal, reduction, intensification, printing in silver, iron, platinum, and bichromate, orthochromatism, impurities in air, recovery of residues, and various other matters of direct interest to photographers, concluding with a useful cyclopædic index of solubilities, &c. It is clearly and concisely written, and the author deserves every congratulation for so excellent a book.

Miscellanea.

Imitation Granular Gum.

A writer to the *Dominion Dental Journal* suggests the following plan for imitating the granular appearance of the gums: Instead of finishing gum with file and sandpaper, a large round bur (rather dull) should be used in the dental engine. With the rapidly revolving bur carve the gum festoons, moving first vertically and then longitudinally; as the carving process nears completion pass the bur lightly over the surface, then polish with brush wheels, pumice, and whiting. This, he states, will give that granular appearance peculiar to the natural gum, and not a perfectly smooth surface.

The Bicycle and Nasal Disease.

The following letter, from W. R. Stewart to the *British Medical Journal*, on nasal disease as a result of cycling, may be of interest to the dental devotees of that pastime. He writes: "As a considerable majority of the patients who have lately consulted me for nasal trouble have complained that the sensation of obstruction has either commenced or considerably increased since they have taken to the bicycle, the question arises, Are we to place this otherwise healthy and almost necessary mode of locomotion among the causes of nasal mischief? It is to me quite conceivable that the quick rush through the air, inhaling large quantities of dust on the country roads, and all sorts and conditions of dirt on the London ones, might cause considerable irritation to the nasal mucous membrane, with consequent thickening. It would be interesting to hear if others have had their attention drawn to this connection of the wheel with nasal trouble."

Xerostomia.

A patient with this rare disease was recently exhibited by Mr. J. Hutchinson at the Clinical Museum. She was a single woman, aged 38, and had had influenza in 1891, since which her tongue had been slightly dry, but not sufficiently so to be troublesome. The condition became aggravated in May, 1896, and still more so in the present year. She had difficulty in eating, and could not swallow biscuit without drink, nor talk for long. The tongue and mucous membrane of the mouth were quite dry, and the former was fissured. The throat showed some glutinous mucus, but no healthy secretion. The patient was in good health. Mr. Hutchinson remarked that this was the rule in these cases. This was a proof that the saliva was not necessary for the preservation of health. The same was true of the bile, for example, in cases where it was all discharged by a fistula. Xerostomia were persistent, but did not lead to any other malady. The treatment was very unsuccessful. Jaborandi might make the mouth moist, but in his hands it so weakened the patients that they wished to leave it off. As to the cause of the disease, it appeared to depend on some derangement of the nervous system, and often followed a shock.

Royal College of Surgeons in Ireland.

The following gentlemen having passed the necessary examination have been admitted Licentiates in Dental Surgery of the College: H. M. Chapman (Dublin); D. Craig (Londonderry); and K. A. Daman (Birmingham).

School Children's Teeth.

The remarks of Mr. Brunton in his opening address at the Leeds local section of the Midland Branch, on the teeth of school children has, we are pleased to note, called forth some very encouraging remarks from the *Yorkshire Post.* The writer of the article seems to have fairly grasped the situation, and the manner in which he refers to the questions cannot but be of immense benefit in placing before the laity the extreme importance of careful attention to the teeth. We only wish that more articles of this character would find their way into the columns of the public press, whose influence on the public mind cannot be over-estimated.

Odonto-Chirurgical Society of Scotland.

The second general meeting of the session 1897-98 was held in the rooms of the Society, at 7.30 p.m., on Thursday, December 9, the President, Mr. Amoore, in the chair. *Business:* Messrs. David Baillie Wilson, L.D.S.Edin., 29, Minto Street, Edinburgh, and A. H. Bain, L.D.S.Edin., 1, Bank Street, Galashiels, were balloted for, and elected members of the Society. A discussion took place on "Dental Education, with reference to the new Regulations of the Royal College of Surgeons of England."

We notice that Mr. Richard Rogers, L.D.S.Irel., has been re-elected Mayor of Cheltenham for the third time.

Correspondence.

We do not hold ourselves responsible for the views expressed by our correspondents.

Formagen.

TO THE EDITOR OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

DEAR SIR,—I think it would be very interesting if a number of our members would state their experiences of the action of formagen. I have used it in about twenty-eight cases, and at present have only had two failures; in both cases the teeth have been very troublesome, and one was an exposure of long standing.

H. O. C.

NOTE.—ANONYMOUS Letters directed to the Secretary of the Association cannot receive attention.

P.O. Orders must be accompanied by Letters of Advice.

Communications intended for the Editor should be addressed to him at 11, Queen Anne Street, Cavendish Square, W.

Subscriptions to the Treasurer, 40, Leicester Square.

Subscriptions to the Benevolent Fund to the Treasurer, A. J. Woodhouse, Esq., 1, Hanover Square, W.

All contributions intended for publication in the Journal must be written on one side of the paper only. The latest date for receiving contributions for the current number is the 5th of the month.

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Educational Supplement.

EDUCATIONAL SUPPLEMENT.

The steps necessary for anyone wishing to qualify as a dental surgeon may be divided into:

(*a*) The Preliminary Examination in General Education.

(*b*) Professional Education (must extend over four years subsequent to registration).

(*c*) Examination.

(*a*) The Preliminary Examination.

The General Medical Council require, previous to registration, that the student shall have passed an examination embracing the following subjects:—

"(*a*) English Language, including Grammar and Composition.

"(*b*) Latin, including Grammar, translation from specified authors, and Translation of easy passages not taken from such authors.

"(*c*) Mathematics, comprising (*a*) Arithmetic; (*b*) Algebra, as far as Simple Equations, inclusive; (*c*) Geometry, the subject matter of Euclid, Books I., II., and III., with easy deductions.

"(*d*) One of the following optional subjects:—

"(α) Greek, (β) French, (γ) German, (δ) Italian, (ε) any other Modern Language, (ζ) Logic."

The General Medical Council do not accept any Certificate of pass in Preliminary Examination in General Education, unless the whole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been passed at the same time.

A list of examining bodies whose Examination in General Education are recognised by the General Medical Council can be obtained from the Offices of the Council, 299, Oxford Street, W. Those most to be recommended are :—The Matriculation of the University of London, the Oxford and Cambridge Local Examinations, and the Special Examination conducted by the College of Preceptors for Medical Students.

The matriculation, which is held in January and June, is on all grounds the best—it can be passed when a youth is sixteen or seventeen without much difficulty, and possesses these advantages : —It ensures the boy receiving a good education, it opens the doors to all the professions, and if at any time during his pupilage or hospital career the student should forsake dentistry for any other branch of the healing art, it is open to him to do so, without returning to school books and passing another preliminary examination.

(*b*) Professional Education.

The Professional Education consists of Instruction in the Principles of General Surgery and Medicine, as well as in Dentistry, Mechanical and Surgical. The curricula required by the different examining bodies are referred to on another page, and it will be seen that they only differ from one another in slight details.

This part of the education should commence by an apprenticeship to a registered dentist. The instruction in Mechanical Dentistry can now be obtained at some of the Dental Schools. The different examining bodies require this part of the education to extend over three years. It is impossible to over-rate the mechanical training, and three years is not too long to spend in a workshop to learn and master the many minutiæ of the mechanical art, without a thorough familiarity with which it is impossible to be a good dentist. Immediately the mechanical instruction is commenced the youth should register as a dental student at the offices of the General Medical Council, 299, Oxford Street, W.

In the case of those who commenced their professional education by apprenticeship to dentists entitled to be registered or by attendance upon professional lectures before July 22, 1878, production of a certificate of a preliminary examination is not necessary. Much trouble often arises from neglect to register. All that is necessary is to apply for a registration form and transmit it properly filled in with the pass certificate of the preliminary examination to the Council's offices.

At the expiration of the three years' apprenticeship the hospital career should commence by simultaneous entrance at a dental and general hospital. The candidate should now register as a medical student, not necessarily to take a medical or surgical qualification, but in order that he may be able to do so at some future time should he wish. The work which would be done at the general hospital for the dental qualification, and which is largely the same as that required for the general qualification, need not then be repeated, but the whole of the time so spent allowed to count as part of the medical curriculum.

The hospital years should be spent in real hard work in mastering every detail of the operative department. The student should seek advice from his teachers, and avail himself of every opportunity of learning from the large experience of the members of the hospital staff. At the general hospital the time should be spent mainly in the dissecting-room, the physiological laboratory, where he should devote himself largely to Dental Microscopy and the out-patient department, in which places the most practical part of the medical education is obtained. It is advisable that he should dissect a head and neck, thorax, and abdomen, whilst attending the dissecting-room. The out-patient room is not sufficiently often visited by the general student, and the attendance of the purely dental student is, very often *nil!* Yet it is here that he must obtain the only knowledge in practical general surgery he will have the opportunity to learn.

(*c*) The Examination.

There are four examining bodies which grant diplomas in Dental Surgery.

The Royal College of Surgeons of England grants a diploma in Dental Surgery under the following regulations, which apply to all candidates who have registered as dental students after January 1, 1897. Candidates are required to pass three examinations : the Preliminary Science Examination, the First Professional Examination, and the Second Professional Examination.

I.—Preliminary Science Examination. Before admission to this examination the candidate must produce a certificate of having received instruction (which may be taken prior to the date of registration as a dental student) at a recognised institution in Chemistry, Physics, and Practical Chemistry. The examination consists of these subjects, and is identical with Part I. of the First Examination of the Examining Board in England.

II.—The First Professional Examination. The candidate must produce the following certificates :—(1) Of having been engaged during a period of not less than three years in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction (which may be taken prior to registration as a dental student), of a competent practitioner or under the direction of the Superintendent of the Mechanical department of a recognised dental hospital. In the case of qualified surgeons, evidence of a period not less than two, instead of three, years of such instruction will be sufficient. (2) Of registration as a dental student by the General Medical Council. (3) Of having attended at a recognised dental hospital and school (*a*) a course of lectures on Dental Metallurgy ; (*b*) a course of Practical Dental Metallurgy ; (*c*) a course of lectures on Dental Mechanics ; and (*d*) a course of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns. Candidates may present themselves for the First Professional Examination after the completion of six months' attendance at a recognised dental hospital and school. The examination consists of Mechanical Dentistry and Dental Metallurgy; the examination in Dental Metallurgy will be by written paper.

III.—The Second Professional Examination. The candidate must produce the following certificates: (1) Of having been engaged during four years in the acquirement of professional knowledge subsequently to the date of registration as a dental student. (2) Of having attended at a recognised dental hospital and school (*a*) a course of Dental Anatomy and Physiology; (*b*) a separate course of Dental Histology, including the preparation of microscopical sections; (*c*) a course of Dental Surgery; (*d*) a separate course of Practical Dental Surgery; and (*e*) a course of not less than five lectures on the Surgery of the Mouth, which lectures may be given at a dental hospital or at a recognised medical school; in the latter case they may form part of the course of lectures on Surgery. (3) Of having attended at a recognised dental hospital or in the dental department of a recognised general hospital the practice of Dental Surgery during two years. (4) Of having attended at a recognised medical school (*a*) a course of lectures on Anatomy, (*b*) a course of lectures on Physiology, (*c*) a separate Practical Course of Physiology, (*d*) a course of lectures on Surgery, and (*e*) a course of lectures on Medicine. (5) Of having performed Dissections at a recognised medical school during not less than twelve months. (6) Of having attended at a recognised hospital the practice of Surgery and Clinical Lectures on Surgery during two winter sessions. (7) Of being 21 years of age.

The certificates of professional study will be required to show that students have attended the courses of professional study to the satisfaction of their teachers. Candidates may present themselves for the Second Professional Examination after the completion of four years' professional study from the date of registration as a dental student, and after the lapse of not less than six months from the date of passing the First Professional Examination. The Second Professional Examination consists of General Anatomy and Physiology, General Surgery and Pathology, Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery. The written examination comprises General Anatomy and Physiology, General Pathology and Surgery, Dental Anatomy and Physiology, and Dental Pathology and Surgery. At the Practical Examination candidates many be examined (*a*) on the treatment of Dental Caries, and may be required to prepare and fill cavities with gold or plastic filling or material, or to do any other operation in Dental Surgery (candidates must provide their own instruments); (*b*) on the Mechanical and Surgical Treatment of the various Irregularities of Children's Teeth. There is also an oral Examination. Exemption from the Preliminary Science Examination is granted to candidates who have passed an Examination for a degree in Medicine at a University in the United Kingdom, in India, or in a British colony. Exemption from Examination in Anatomy and Physiology is granted to candidates who have passed the second Examinations of the Examining Board in England or the corresponding Examination of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or of any University in the United Kingdom. Exemption from Examination in General Surgery and Pathology is granted to candidates who have passed the Examination in Surgery of the Examining Board in England or the corresponding Examination of the Colleges and Universities above mentioned. The fee for the diploma is 20 guineas, and is payable as follows :—Preliminary Science Examination, 3 guineas ; First Professional Examination, 2 guineas ; Second Professional Examination, 5 guineas ; the balance to be paid on the completion of the Examinations. The Preliminary Science Examination is held in January, March or April, July, and October in each year. The first and second Professional Examinations are held in May and November in each year. Candidates must give twenty-one clear days' notice of their intention to present themselves for examination.

Royal College of Surgeons, Edinburgh.—For the licence in Dental Surgery all candidates must pass a preliminary examination in general knowledge and have their names inscribed in the Register of Dental Students of the General Medical Council. A copy of regulations, giving a list of preliminary examinations recognised for obtaining this licence, as well as of the subjects of the professional examinations, may be obtained from Mr. James Robertson, Clerk to the Royal College of Surgeons, at 48, George Square, Edinburgh. Students who commenced their professional education by apprenticeship or attendance on lectures before July 22, 1878, are exempt from the preliminary examinations. Candidates must produce certificates of having, subsequently to the date of registration, been engaged for four years in professional studies, and of three years' instruction in Mechanical Dentistry from a registered dental practitioner, except in the case of previously registered medical practitioners, when two years will be considered sufficient. Candidates who have commenced their studies *after* Oct. 1, 1890, must have attended the following curriculum : Anatomy, one course of six months ; Practical Anatomy, twelve months ; Chemistry, one course of six months ; Practical Chemistry, one course of three months ; Physiology, one course of six months ; Materia Medica, one course of three months ; Surgery, one course of six months ; Medicine, one course of six months ;

and attendance on the practice of a recognised general hospital, with Clinical Instruction, twelve months. (Candidates who commenced study in accordance with the regulations in force before July, 1895, shall not be required to attend more than six months' hospital work.) These courses must have been attended at a University, or in an established school of medicine, or in a provincial school specially recognised by the College as qualifying for the diploma in Surgery. In addition to these courses candidates will be required to have attended in a recognised dental hospital or with teachers recognised by the College, the following special courses of lectures and instruction : Dental Anatomy and Physiology (Human and Comparative), Dental Surgery and Pathology, Dental Mechanics—one course each; two years' attendance at a dental hospital or the dental department of a general hospital recognised by the College. Certificates of attendance on such of these courses of the new curriculum as may be respectively required will entitle candidates to appear either for the first dental examination or for the first and second examinations for the triple qualification, as they may select, and subject to the existing regulations for each qualification. Candidates who have passed the first and second examination for the triple qualification will be exempt from the first dental examination, and will have the advantage of being admissible either to the Final Dental Examination or to the subsequent Examination for the Triple Qualification, or to both. But the First Dental Examination will not be held as equivalent to the first and second Triple Examinations, and will admit to the Final Dental Examination only. Candidates who are Licentiates of this College, or who may be registered medical practitioners, will be required to produce certificates of attendance on the special subjects only, and will be examined in these only for the Dental diploma. First Professional Examination : The candidate must have attended the courses on Anatomy, Chemistry, and Physiology. The examination embraces Anatomy, Chemistry, and Physiology. The fee is £4 4s. Second Examination : The candidates must have attended the remaining courses of the curriculum, must be twenty-one years of age, and must pay a fee of £6 6s. The examination embraces Surgery, Medicine, Therapeutics, and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics. Unsuccessful candidates will be repaid £2 2s. in the First and £3 3s. in the Second Examinations. Candidates who claim exemption from the First Dental Examination, on the ground of having passed the First and Second Triple Qualification Examinations, will, before being admitted to the Second Dental Examination, be required to pay the total fee of £10 10s., payable for the Dental diploma, of which £3 3s. will be returned in case of rejection. The fee payable by candidates who begin study after Oct. 1 shall be £15 15s.

Faculty of Physicians and Surgeons of Glasgow.—The regulations as to certificates, curriculum, number, and subjects of examinations, fees, &c., are in effect similar to those of the Royal College of Surgeons of Edinburgh. Special provision is made for candidates who intend to qualify both in Medicine and in Dentistry. There is a practical examination in Mechanical Dentistry and also an examination in Practical Dentistry conducted in a dental hospital.

Royal College of Surgeons in Ireland.—All information concerning the licence in Dentistry may be obtained from the Registrar of the College, who will receive the applications of candidates for permission to be examined. The bank receipt for fees, together with all certificates, &c., are to be lodged with him at least seven days prior to the day fixed for the commencement of the examination. The Primary Dental Examinations commence on the second Monday in the months of February, May, and November. The Final Dental Examinations commence on the Thursdays immediately following the Primary Dental Examinations. Candidates are required to pass three examinations—viz., Preliminary (in General Education), Primary Dental, and Final Dental.

Preliminary Examination—All examinations in general education recognised by the General Medical Council are accepted by the College. Preliminary Examinations are held conjointly by the Royal Colleges of Physicians and Surgeons on the third Wednesdays in March and September.

Primary Dental Examination—Fee £10 10s. ; for re-examination, if rejected, £5 5s. Every candidate* is required, before admission to the Primary Dental Examination, to produce evidence—(1) of having passed a recognised preliminary examination and of having been registered as a dental or medical student by the General Medical Council ; (2) of having, subsequently to registration as a dental or medical student, attended at a recognised medical school the following courses : Lectures on Practical Anatomy, including Dental Anatomy, six months ; Demonstrations and Dissections, two courses of six months each ; Lectures on Chemistry, six months ; Lectures on Physiology, including Dental Physiology, six months ; Practical Histology, and Practical Chemistry, including Metallurgy, three months ; (3) of having attended Clinical Instruction at a recognised general hospital for one year. The subjects of this examination are : (1) Physics ;† (2) Chemistry, including Metallurgy ; (3) Anatomy ; (4) Physiology and Histology ; and (5) Surgery.

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* Candidates educated in England or Scotland are admitted to the Primary Dental Examination on the production of the certificates that would be necessary for both Primary and Final Examinations in their own countries.

† Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of

Final Examination.—Candidates holding L.R.C.S.I., or students who have passed Primary Dental or Third Professional Examination of the College, £10 10s. ; re-examination, £5 5s. Fees for Final Examination of all other candidates, £26 5s. ; re-examination, £10 10s. Extra fee for Special Examination, £5 5s. Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, and are required to produce certificates of having attended : (1) the following courses of lectures recognised by the College—Dental Surgery and Pathology (two courses), Dental Mechanics (two courses) ; (2) for two years the practice of a dental hospital recognised by the College, or of the dental department of a general hospital so recognised ; (3) of having been engaged during four years in professional studies ; and (4) of having received three years' instruction in Mechanical Dentistry from a registered dentist. Candidates holding a diploma in Surgery shall be admissible to the Final Dental Examination on producing certificates of having attended—(1) one course of Lectures on Dental Surgery and Pathology ; (2) one course of Lectures on Dental Mechanics ; (3) for one year the practice of a Dental Hospital recognised by the College or of the Dental Department of a General Hospital so recognised, where such attendance has been subsequent to the date of diploma (this remission [3] has been made on the understanding that the surgeon devotes his whole time to dental work) ; and (4) of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry under the instruction of a registered dentist. The following are the subjects of examination : Dental Surgery, Theoretical (including Dental Pathology), Clinical, and Operative ; Dental Mechanics, Theoretical, Clinical, and Practical (including the Metallurgy of the workshop). Examinations for the Licence in Dentistry *sine curriculo* : The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the Dental Register, published under the direction of the General Medical Council, and who are unable to furnish the certificates required by the foregoing regulations, on presentation of a special schedule of application.

Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination, recognised by the College, are exempted from examination in these subjects at the Primary Dental Examination.

EDUCATIONAL CENTRES.

Instruction in dental surgery can be obtained now not only in London but also at many of the large provincial centres. The following are brief particulars of the various hospitals and schools.

LONDON.

The Dental Hospital of London and London School of Dental Surgery.

The Dental Hospital, founded in 1858, was opened for the reception of patients at 32, Soho Square, and in March, 1874, was removed to more commodious premises at Leicester Square, which it now occupies. The rapid growth of the school made enlargement of the premises a necessity, and, thanks to the munificence of Sir Edwin Saunders, another wing was added to the building in 1883, giving increased accommodation, and making the Hospital the largest for dental students. The most complete arrangements are provided for the education of students preparing for the L.D.S. diploma of the Royal College of Surgeons.

The hospital is open every afternoon except Saturday, in addition to the morning, under the supervision of a special staff and house surgeons, this extension of the hours of work having been found necessary to afford the additional opportunities for practical work and teaching which the rapid growth of the institution demanded.

The officers for the day give practical teaching at the chair side, enabling the students to acquire experience in the treatment of the many minor difficulties of their profession.

Four demonstrators are appointed, whose duty it is to teach the students, and on their respective days to assist the new students in their work. During each session they hold classes and give instruction in Operative Dental Surgery.

A demonstration is given in each week by a member of the staff for second year's students. The whole of the staff demonstrate and give lectures on various modes of practice, and any form of work in which they are specially skilled.

The mechanical laboratory is under the care and superintendence of the lecturer on Dental Mechanics, and a skilled mechanic. Students are required to take models, manufacture, and fit in the mouth dentures for those patients allotted to them by members of the staff, the actual manufacture being under the superintendence of the mechanical assistant, while the adapting to the mouth is supervised by members of the staff.

It is intended, in this manner, to supply a portion of the student's education heretofore unprovided for, and to more perfectly equip him for the exigencies of dental practice. It enables him to be in a better position to meet the requirements of the College of Surgeons of England with regard to Mechanical Dentistry, in which subject the Board of Examiners for the L.D.S. demand a practical examination from candidates for that diploma.

The medical tutor attends and helps the students in preparing for their examination for two months before each examination.

The Saunders Scholarship, value £20, is awarded each year.

Messrs. C. Ash & Sons give a prize of the value of five guineas each year. Prizes are awarded by the lecturers, and a special one is presented to the best operator for the year.

The eight house surgeoncies are valuable additions to the prizes, and are filled by students of the hospital holding the L.D.S.

Fee for two years' hospital practice required by the curriculum, including lectures, £50 in one payment on entry, or 50 guineas in two yearly instalments. The curriculum requires two years to be passed at a general hospital. The fee for this is about £55. *Both hospitals can be attended simultaneously.*

The Calendar may be obtained on application to the Dean, who attends at the hospital on Wednesday mornings from 10.30 till 12 o'clock throughout the year.

MORTON SMALE,
Dean.

The National Dental Hospital and College.

(Founded 1861.)

GREAT PORTLAND STREET.

This Hospital has only been recently erected, and the accommodation and fittings are in complete accord with the latest requirements for efficient teaching.

An Entrance Exhibition of the value of £15 is open for Competition at the commencement of each Summer and Winter Session, after an Examination in the following subjects :—

Physiology.—The Functions of Respiration, Circulation, and Digestion.

Osteology.—Bones of the Head.

Chemistry.—The Non-Metals and their Compounds.

Dental Mechanics.—Theoretical and Practical.

All New Students pass through a preliminary course under the care of a Demonstrator.

All the Members of the Staff, besides teaching at the Chair-side, give Special Demonstrations.

Six Prizes, in Medals, are open for competition among the Students of the College at the end of each Course of Lectures.

Certificates of Honour will be awarded to those Students who show sufficient proficiency in any of the classes.

The Rymer Gold Medal for General Proficiency, value £5, will be awarded annually to the most distinguished Student of the year.

The Ash Prize, value £3 3s., is awarded annually for the best Thesis on a subject in Dental Surgery.

The Meetings of the Students' Society are held on the evening of the first Friday in each month from October to March, both inclusive, at 8 o'clock.

The Fee for Two Years' Hospital Practice, and for all the Lectures required by the Curriculum of the Royal College of Surgeons of England, is forty guineas.

A Calendar and all particulars can be obtained on application to

SIDNEY SPOKES, *Dean.*

Guy's Hospital Dental School.

This school is in connection with Guy's Hospital, and is the only Dental School in London where all the requirements for the L.D.S.Eng. can be obtained.

An Open Entrance Scholarship in Arts, of the value of £30, is offered for competition annually in the month of September. All particulars relating to the examination may be obtained upon application to the Dean.

Three Prizes are awarded annually.—First Year's Students' Prize, £10; Second Year's Students' Prize, £15; Second Year's Students' Prize (Practical Dentistry), £10.

Instruction is given to Students in making dentures, regulation plates, and mechanical appliances for the treatment of dental irregularities and oral deformities. Pupils for the Mechanical Apprenticeship are not accepted. The Mechanical Laboratory is under the care of a skilled mechanic.

Preparation Classes.—Before each examination for the diploma of L.D.S., Classes and Demonstrations are given by the Demonstrators.

Continuous Instruction is afforded by means of a separate morning and afternoon Staff of Dental Officers, who give Clinical Demonstrations.

The following appointments are allotted to Dental Students according to merit: Three Dental House-Surgeons, two Assistant Dental

House-Surgeons, one Assistant Demonstrator of Dental Microscopy six Demonstrators in the Conservation Room.

Fees.—The Fees for the two years' Hospital Practice required by the Royal College of Surgeons for the L.D.S., including Lectures, is £50. The Fee for instruction in general subjects in Guy's Hospital Medical School is £60, with a reduction of 12 guineas in the case of those Students who have obtained certificates of instruction in Chemistry, Practical Chemistry, and Materia Medica. No arrangements are made for short periods of Instruction or separate Courses of Lectures.

Further particulars, with prospectus, may be obtained from the Dean,

Dr. Lauriston Shaw, Guy's Hospital, S.E.

GENERAL MEDICAL SCHOOLS.

Candidates should apply to the Dean of the Medical School at which they intend to enter, for a calendar. At the Middlesex and Charing Cross Schools, the times of Lectures are specially arranged to suit Dental Students.

Charing Cross Hospital, W.C.

The Composition Fee for Dental Students is 54 guineas, or 60 guineas payable in two instalments of 30 guineas each. A reduction is made in the case of Students who produce Certificates on joining the School of previous attendance on Chemistry, Practical Chemistry, and Materia Medica, and an additional reduction is made to Dental Students not requiring Practical Physiology.

H. Montague Murray, M.D., *Dean.*

King's College, Strand, W.C.

No special arrangements are made for Dental Students.

Prof. Curnow, *Dean.*

London Hospital, Mile End, E.

Composite Fee for Dental Students.—Hospital Practice and Lectures, £42. This does not include the fee of £2 2s. for Practical Chemistry.

Munro Scott, *Warden.*

MIDDLESEX HOSPITAL, BERNERS STREET, W.

The Composition Fee for Dental Students is 54 guineas in one sum on entrance, or by instalments of 40 guineas on entrance and 20 guineas at the beginning of the second Winter Session. No deduction can be made from composition fees.

W. PASTEUR *Dean.*

ST. BARTHOLOMEW'S HOSPITAL, SMITHFIELD, E.C.

Fee for General Subjects for Students of Dental Surgery:—First Winter, 31½ guineas; First Summer, 31½ guineas; or a single payment of 63 guineas.

T. W. SHORE, M.D., *Warden.*

ST. GEORGE'S HOSPITAL, GROSVENOR PLACE, S.W.

Fee for General Subjects required for the Diploma in Dental Surgery, including Practical Chemistry, £55; payable in two instalments:—First year, £30; second year, £25.

ISAMBARD OWEN, M.D., *Dean.*

ST. MARY'S HOSPITAL, PADDINGTON, W.

Entrance Fee to the General Hospital Practice and Lectures required for the examination in Dental Surgery at the Royal College of Surgeons, England, £55; payable in two instalments:—First year, £30; second year, £25

GEORGE FIELD, *Dean.*

ST. THOMAS'S HOSPITAL, ALBERT EMBANKMENT, S.E.

The Fee for attendance on the General Subjects required of Students in Dental Surgery is, for the two years, £65; or by instalments, £55 for the first year, and £15 for the second year.

H. P. HAWKINS, *Dean.*

UNIVERSITY COLLEGE, GOWER STREET, W.C.

The Fee for Subjects required at a General Hospital by the Dental curriculum is 65 guineas.

PROFESSOR R. G. GODLEE, *Dean.*

WESTMINSTER HOSPITAL, BROAD SANCTUARY, S.W.

The Fees for the General Surgical Practice and Lectures required for the Dental Diploma of the Royal College of Surgeons may be paid in one of two ways, viz.:—1. In one payment on entrance, £50. 2. In two payments of £27 10s. to be made respectively at the commencement of each academic year. These payments include the Library Fee.

A Scholarship, value £20, is offered annually for competition to Dental Students commencing in October. Particulars in Prospectus from—

R. G. HEBB, M.D., *Dean.*

MANCHESTER.

Victoria Dental Hospital.

DEVONSHIRE, STREET, ALL SAINTS.

Two Dental Surgeons are in attendance each time the hospital i open, and are assisted in the practical teaching by the Demonstrator and House Surgeons.

PRELIMINARY INSTRUCTION.

During their first six months at the Hospital new students are taken by the Demonstrator through a very complete course of practical instruction in all branches of operative dentistry. This course includes the actual preparation and filling of cavities out of and in the mouth, the treatment of the different pathological conditions of the dental pulp, the treatment and filling of root canals, and the different methods of crowning.

A SPECIAL COURSE OF DEMONSTRATIONS

is given to more advanced students by the Lecturer on Operative Dentistry, and other demonstrations are given periodically by the Dental Staff.

Prizes. — The Fletcher prizes are awarded annually—in July. They consist of a first prize, value £8, for second year's men, and a second prize, value £2 for the first year's men. The Matheson Operating Prize, value £3 3s. A prize value £2 2s., is given by Messrs. Ash & Sons for the best essay on some subject in general surgery in connection with the teeth. This prize is awarded in July. Two prizes, value one guinea and two guineas, are offered respectively to first and second years' men, for proficiency in the extraction of teeth. A prize, value two guineas, for the best Regulating Case treated during the year.

Fees.—The fee for the two years' Dental Hospital practice required by the College of Surgeons of England is £12 12s., which must be paid in advance.

A prospectus containing full information may be had on application to—

GEO. G. CAMPION, *Dean.*

The dental lectures and general instruction are obtained at the Owens College, in conjunction with the Manchester Royal Infirmary.

The dental department forms an integral part of the department of medicine, and affords the fullest opportunities for study to students preparing for any of the dental examinations.

In addition to the ordinary dental lectures required by the licensing bodies, a course on Operative Dentistry is given during the summer session, and these are supplemented by a series of practical demonstrations given by the lecturer at the Victoria Dental Hospital.

There is also a special course of demonstrations on Dental Histology and Pathology, in which students are enabled to mount for themselves microscopic specimens illustrating these subjects.

Prizes or medals and certificates are awarded in all the classes on the results of the several examinations.

The fee for the two years' lectures, &c., required by the Dental Curriculum of the Royal College of Surgeons of England is £50, payable in two sums of £25 each at the beginning of the first and second years of studentship.

The two years' general hospital practice is taken at the Manchester Royal Infirmary, fee £10 10s.

Prospectuses will be forwarded on application.

S. CHAFFERS, *Registrar.*

LIVERPOOL.

Liverpool Dental Hospital and School of Dental Surgery.

The alterations and additions have met with the entire approval of those concerned in carrying out the work of the charity and school, and as it now stands, this school offers advantages to students which are not excelled anywhere.

The ground floor of the building contains the following: Extraction Room, with all needful appliances: Anæsthetic Room, specially reserved, with every convenience; and large Waiting Room for Patients.

The first floor has a large Board Room, and a very comfortable Students' Room, set apart exclusively for the use of the students.

The whole top floor of the building has been thrown into one fine, airy, and well-ventilated Operating Room. This room will accommodate upwards of thirty operating chairs, which are of the "Morrison Pattern," and each of which has a special electric light (canting pendant) suspended before it.

In the basement a very convenient Workroom has been fitted up, containing the necessary requirements, and there are also commodious lavatories for students.

The times of the Lectures at the University College have been re-arranged to meet the convenience of students, thus allowing the maximum time for attendance upon Dental Hospital practice.

Fees for two years' Hospital practice, £12 12s.; Perpetual, £15 15s.

Additional information can be obtained at any time on application to

R. EDWARDS, *Dean.*

The various dental lectures and instruction in general subjects are obtained at University College, Liverpool, the composition fee for all lectures being £50 in one payment on entrance, or in two equal instalment (one half on entrance and the remainder within twelve months), the fee for General Hospital practice being £10 10s.

Further particulars can be obtained of

Professor PATERSON, *Dean.*

BIRMINGHAM.

Birmingham Dental Hospital.

71, NEWHALL STREET.

This hospital provides all the necessary practice for the L.D.S. England. The Demonstrators attend daily to instruct the students. Demonstrations are given weekly to the senior students by the Honorary Staff.

The New Conservancy Room is fitted with the latest appliances, and means are provided for the making of Crowns and Bridge-work.

The post of Assistant to the House Surgeon is awarded every six months to a senior student. Certificates of Merit are awarded annually to the best operators. The "C. Green" Memorial Silver Medal is awarded to the best operator under Anæsthetics. Messrs. C. Ash and Sons give a prize annually for the best essay upon a given subject. A prize is awarded annually for the best series of Regulation Cases.

Fees for two years' Hospital practice, £12 12s.

A Prospectus containing full information will be forwarded on application to FRED. W. RICHARDS, L.D.S.Eng., *Dean.*

The various special Dental Lectures and also the entire course of Instruction in General Subjects is provided at Mason College in conjunction with the General, Queen's and Dental Hospitals.

The College possesses a well-equipped Dental Museum and Laboratory. An Entrance Scholarship of £15, Medals, and Certificates in the Classes are offered annually. There are special courses on Surgical Diseases of the Mouth, and on Diseases of the Mouth and Stomach in relation to Dentistry, and on Practical Dental Microscopy. Fees—General Hospital, £12 12s.; Mason College (Lectures), £50. Prospectuses and further information can be obtained from

GEO. H. MORLEY,
Registrar of the College.

NEWCASTLE-UPON-TYNE.

The Newcastle-upon-Tyne Dental Hospital and School.

37, NELSON STREET.

This School is conveniently situated near the University of Durham College of Medicine and College of Science (at Newcastle-upon-Tyne) and the Royal Infirmary.

Being in the midst of a densely populated neighbourhood, there is an abundant daily supply of patients and instructive cases.

The Dental part of the curriculum has been carefully arranged to fulfil the requirements of the various examining bodies, and with a view to giving an education which the advance of modern dentistry demands ; the importance of the practical part being given special consideration.

The rooms of the Hospital are well lighted and thoroughly equipped for carrying on the work. Dental Surgeons and Anæsthetists attend each morning and give demonstrations on treatment on the various methods of gold filling, crowning, crown-and-bridge work, regulation cases, administration of anæsthetics, &c.

Lectures are given during the Summer Session on Dental Surgery and Pathology, Dental Anatomy and Physiology, Dental Materia and Therapeutics ; and during the Winter Session on Dental Mechanics ; while there is a Winter and Summer Course on Operative Dental Surgery.

R. L. MARKHAM, *Dean.*

Instruction in General Subjects can be obtained at the University of Durham Colleges of Medicine and Science, Newcastle-upon-Tyne.

Devon and Exeter Dental Hospital.

Pupils of any member of the staff or other registered practitioner (being a Life or Annnal Governor) are permitted to attend the practice of the Hospital, subject to the approval of the Medical Sub-committee, on payment of £5 5s. annually to the funds of the Institution. Attendance on the practice of this Hospital is recognised by the Royal College of Surgeons of England as qualifying for their Dental diploma. Full particulars can be obtained of HENRY YEO,

Hon. Secretary.

SHEFFIELD.

The Dental Department of the Sheffield Royal Hospital is now recognised by the Royal College of Surgeons, England. Particulars can be obtained of the Secretary to the Hospital. At the present time a Dental School has not been definitely formed.

EDINBURGH.

Edinburgh Dental Hospital and School,

31, CHAMBERS STREET, EDINBURGH.

The new premises, 31, Chambers Street, present every facility for a complete Dental training.

Besides the ordinary practice and instruction, the following special classes have been instituted in Gold Filling, Dental Materia Medica and Therapeutics, Dental Metallurgy.

There are rooms for extracting, with and without anæsthetics, and every facility is given for the thorough acquisition of a knowledge of anæsthetics and their application.

Special facilities are also afforded in the mechanical department under the superintendence of the Lecturer in Dental Mechanics and his Demonstrators ; a large and fully equipped workroom under the charge and direction of a competent mechanic having been set aside for the construction of Dental appliances, and general Technical Training.

Fee for two years' Hospital Practice, £15 15s. ; Lectures, as required by the Curriculum, £9 15s. Special Lectures free.

There is a Students' Society in connection with the School.

The prospectus for Session can be obtained on application to the Dean, at 31, Chambers Street.

One or two indentured Pupils can be attached to the School, who will receive both Mechanical and Operative instruction within the building. Period of Pupilage, four years. This term includes period of medical study.

Instruction in general subjects is obtained at "The Medical School of the Royal Colleges of Surgeons and Physicians of Edinburgh."

The total fees for the necessary Hospital practice and Lectures amount to £80.

W. BOWMAN MACLEOD, *Dean.*

GLASGOW.

Glasgow Dental Hospital.

5, St. Vincent Street.

New premises having been secured for the above in the most central and busy thoroughfare of the city (5, St. Vincent Street, corner of George Square), it is now fully equipped with every facility for the training of Dental students. It is well lighted, the sanitary arrangements are complete, and the electrical installation is an efficient one. Students desirous of joining may do so at any time.

The winter session commences on November 1, 1897.

Fees for attendance on the Lectures and Hospital practice, £23 2s.

J. A. Biggs, L.D.S., *Dean.*
D. M. Alexander, *Secretary.*
97, West Regent Street, Glasgow.

The Medical Schools in connection with the Dental Hospital are the University, Andersonian, and St. Mungo.

The fee for the two latter is £2 2s. for each subject (except Anatomy £4. 4s). At the Glasgow University the fee for each subject is £3 3s. (except Anatomy £6 6s). The total fees for General Hospital practice and Lectures range from £28 7s. to £44 2s.

IRELAND.

The Dental Hospital of Ireland.

Lincoln Place, Dublin.

All Dental Students who have passed their preliminary examination are admissible to the Clinical Instruction of the Hospital, after paying fees and subscribing to the conditions prescribed by the staff.

In addition to Clinical Instruction, courses of lectures and demonstrations will be given at the Hospital in Dental Surgery and Pathology, Mechanical Dentistry, the Administration of Anæsthetics, Dental Microscopy, crowns, pivots, porcelain inlays, gold filling, etc.

In addition to the longer courses of Hospital attendance, special courses of three months' duration will be given to surgeons about to join the Army and Navy, or to practise in the Colonies or remote country districts.

Fees (all of which are payable in full and in advance),

Dental Hospital Practice.—First year, £15 15s. Second year, £12 12s. Six months, £5 5s. Three months, £3 3s.

In addition to the above courses, Registered Dentists, who are

Members of the British Dental Association, will usually be permitted to take out a three months' course for a fee of six guineas.

Further particulars can be obtained from the Registrar of the hospital, or from

R. THEODORE STACK, *Dean.*

ADDITIONAL QUALIFICATIONS.

A qualification in medicine and surgery, in addition to the L.D.S., is of great value to the dental surgeon. The curricula demanded by the various medical corporations are much broader than that required for the dental diploma, and the student who fulfils such curricula naturally acquires a greater breadth of knowledge which cannot fail to be of use to him in treating many of the pathological conditions met with in the mouth.

To those intending to take an additional medical qualification, the following will be found a good plan. The references are made, for the sake of an example, to the English qualifications, viz., the L.D.S. in connection with M.R.C.S.Eng., and the L.R.C.P.Lond.

The alterations made by the College of Surgeons of England in the dental curriculum have virtually made the curriculum for the 1st and 2nd professional examination for the conjoint examination identical with that for the dental diploma, and by allowing the mechanical work, practical pharmacy, chemistry and elementary biology to be taken before registration, gives the dental student greater opportunity for taking in addition to the L.D.S. the conjoined diploma, of which it is to be hoped he will take advantage. Inasmuch as the dental students have to take the same subjects as the general student, it would be wise with a view to thoroughness, that the 1st and 2nd professional examination for the conjoint diploma should be passed, thus ensuring that the subjects are properly attended and learnt. The subjects for the final examination for the M.R.C.S. and L.R.C.P. can then be taken at leisure, and may extend over some years, and the examinations passed from time to time as opportunity arises, even after the student has begun dental practice.

Those students who have passed the 1st and 2nd examination for the conjoint diploma will not be examined in anatomy and physiology at the examination for the L.D.S.

During the mechanical apprenticeship, which is recognised by the College of Surgeons when taken previous to the preliminary examination, the student can receive instruction at certain institutions recognised by the conjoint board, in chemistry, including chemical physics, practical chemistry, practical pharmacy and elementary biology, and after the preliminary examination has been passed, he should register as both a dental and medical student, and present himself for examination in these subjects before entering a hospital, then enter simultaneously at a general and dental hospital. At the end of his first six months he can pass his first professional examination for the L.D.S., and at the conclusion of his second winter he can present himself for the examination in anatomy and physiology.

At the expiration of two years he may present himself for the final examination for the dental licence ; he will during these two years have been attending simultaneously both the general and dental hospitals. During the remainder of his time he should devote himself to surgery, medicine, and midwifery.

It is felt that the recent changes brought about by the amalgamation of the two Colleges have greatly increased the difficulty of obtaining these higher qualifications ; such is not really the case, the curriculum being really simplified.

For the convenience of reference the mode of procedure is tabulated as concisely as possibie, for the dental student to obtain the three diplomas :

1. Preliminary examination.
2. Apprenticeship.
3. Registration as a dental and medical student, or this latter can be postponed until entry at hospital.
4. During apprenticeship receive instruction as above in chemistry, pharmacy and elementary biology, and pass in them at the Examination Hall.
5. Enter simultaneously at a dental and general hospital.
6. Pass the first professional examination for the Dental Diploma on the completion of six months' attendance at a Dental Hospital.
7. Pass in anatomy and physiology at end of second winter session.
8. Pass final examination for dental licence at end of second year.
9. Devote remainder of time to medicine, surgery, midwifery, &c.
10. Pass the final examination of the two colleges.

The best plan, however, for those who have the time to spare is to complete the examination for the medical qualification, and then enter at a dental hospital and subsequently take the dental diploma. In this way the student brings the whole of his knowledge of general surgery and medicine to bear upon the special surgery of the mouth, and naturally obtains a clearer insight into the pathology of the various affections he has to deal with.

This book must be returned to
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